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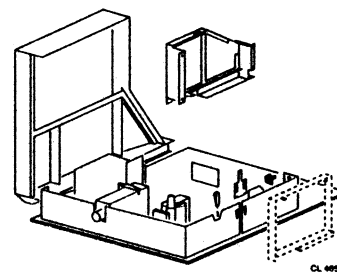
MODEL

SERVICE MANUAL

Service
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Service

Anubis S

BB



CL 4052006/012
200194

Service Manual

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

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


















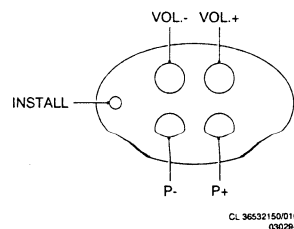
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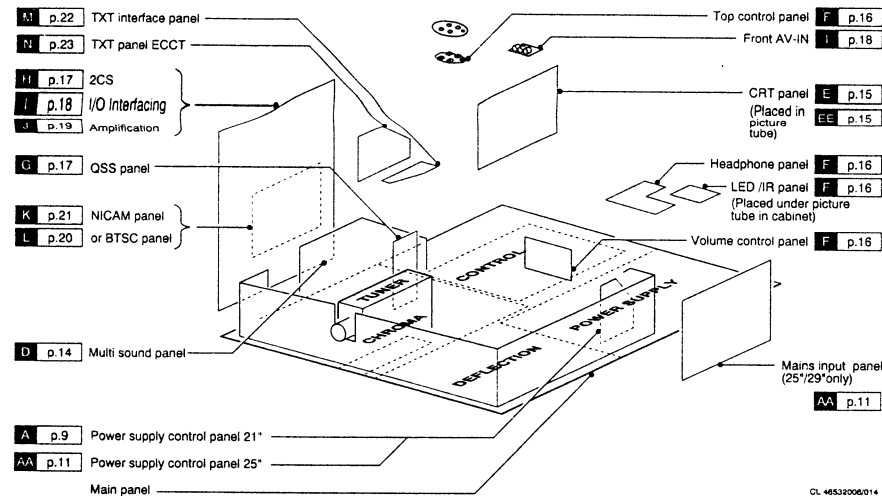
1. Technical specifications

Mains voltage	: 140 - 276 V : 50/60 Hz (± 5%) : 90 - 276 V; 50/60 Hz (± 5%)
Power cons. at 220V-	: 21" 64 W (stand-by ≤ 12 W) : 25" 76 W (stand-by ≤ 14 W)
Aerial input impedance TV	: 75Ω - coax
Min. aerial input VHF	: 30μV
Min. aerial input UHF	: 40μV
Max. aerial input VHF/UHF	: ≥ 180mV
Pull-in range colour sync	: ± 300Hz (NTSC 3.58: ± 250Hz)
Pull-in range horizontal sync	: ± 600Hz
Pull-in range vertical sync	: ± 5Hz
Picture tube range	: 21" A51 KXR 95X Narrow neck Global Hemisphere : 25" A59 LAM 93X01 Narrow neck Northern Hemisphere : 25" A59 LAM 94X01 Narrow neck Neutral Hemisphere : 25" A59 LAM 95X01 Narrow neck Southern Hemisphere
	: 2x2W squeeters 25Ω + 1x4W subwoofer 16Ω; 20Hz-14kHz
TV Systems	: /65/67/68/79/94: PAL B/G (NTSC 4.43 PB optional) : /75: PAL B/H (NTSC 4.43 PB optional) : /56/57/69/70/93: PAL B/G/I & SECAM B/G/D/K & NTSC M (NTSC 4.43 PB optional) : /58/59/62: PAL B/G & SECAM B/G/D/K (NTSC 4.43 PB optional) : /54: PAL M/N & NTSC M : /71/85: NTSC M : /78: PAL M
Indications	: On Screen Display (OSD) : 1 LED ( green,  red, "RC5" orange)
VCR programs	: 0 and 39
Tuning and operating system	:  VST/PLL
UV 913/IEC (VST)	: Band I: 48.25 - 82.25 MHz : Band III: 163.25 - 224.25 MHz : UHF: 471.25 - 855.25 MHz
UV 915E/IEC (VST)	: Band I: 48.25 - 168.25 MHz : Band III: 175.25 - 447.25 MHz : UHF: 455.25 - 855.25 MHz
UV 936E/F & UV 936E/IEC (PLL)	: Band I: 55.25 - 157.25 MHz : Band III: 162.00 - 451.25 MHz : UHF: 457.25 - 801.25 MHz
UV 953/IEC (VST)	: Band I: 48.25 - 93.25 MHz : Band III: 168.25 - 224.25 MHz : UHF: 471.25 - 863.25 MHz
UV 963/IEC (VST)	: Band I: 46.25 - 102.25 MHz : Band III: 138.25 - 224.25 MHz : UHF: 471.25 - 855.25 MHz
Local operating functions	: Volume +/-, Program +/-, Install

2. Connection facilities

Rear cinch AV IN	:  1 x cinch CVBS  1V _{pp} / 75Ω :  2 x cinch Audio L & R  500mV RMS / 47kΩ
Rear cinch AV OUT	:  1 x cinch CVBS  1V _{pp} / 75Ω :  2 x cinch Audio L & R  500mV RMS / 47kΩ
Rear SVHS	: Y 1V _{pp} / 75Ω : C 1V _{pp} / 75Ω
Rear SCART (for /62)	: 1 x CVBS  1V _{pp} / 75Ω : 2 x Audio L & R  500mV RMS / 47kΩ : 1 x CVBS  1V _{pp} / 75Ω : 2 x Audio L & R  500mV RMS / 47kΩ
Front cinch AV IN (optional)	:  1 x cinch CVBS  1V _{pp} / 75Ω :  2 x cinch Audio L & R  500mV RMS / 47kΩ
Front headphone	:  8-600Ω; 10mW





3. Warnings and notes

Warnings

1. A set to be repaired should always be connected to the mains via a suitable isolating transformer.
2. Safety regulations demand that the set be restored to its original condition and that components identical with the original types be used. Safety components are marked by the symbol
3. To prevent damage to ICs and transistors any flash-over of the EHT should be avoided.
To prevent damage to the picture tube the method, indicated in Fig. 3.1, has to be applied to discharge the picture tube. Make use of an EHT probe and a universal meter (position DC-V). Discharge until the reading of the meter is 0V (after approx. 30s).
4. **ESD**
All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair may reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools on the same potential.
5. The deflection and multipole unit is delivered separately of the picture tube; it has to be adjusted by the service technician (see chapter 7).
6. Proceed with care when testing the EHT section and the picture tube.
7. Never replace any modules or any other parts while the set is switched on.

8. Wear safety goggles during replacement of the picture tube.

9. Use plastic instead of metal alignment tools.
This in order to preclude short-circuit or to prevent a specific circuit from being rendered unstable.

10. Upon a repair of a transistor or IC assembly i.e. a transistor or IC with heatsink and spring remounting should be carried out in the following order:
 1. Mount transistor or IC on heatsink with spring.
 2. Mount assembly and resolder the joints at last.

Notes

1. Do not use heatsinks as earth reference.
2. The direct voltages and waveforms should be measured relative to the nearest earthing point on the printed circuit board.
3. The DC voltages and oscillograms are where necessary measured with () and without () aerial signal. (settings as in Service Default Mode; see chapter 8). Voltages and oscillograms in the power supply section have been measured for both normal operation () and in the stand-by mode (). As an input signal a colour bar pattern has been used.
4. Connectors used for the modules (board to board) are gold-plated and must be replaced by the same type only.

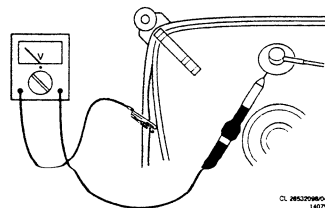


Fig. 3.1

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4. Mechanical instructions

General

All panels are plugged for easy (dis)connecting and can be removed without damaging the circuitry.

For **video related faultfinding** the main carrier can be disconnected from the TXT panel and the 2CS+I/O+AMPL panel as the set will automatically switch to internal CVBS (except for SECAM chroma which signal path is via the 2CS+I/O+AMPL panel). Of course for CVBS I/O faultfinding the 2CS+I/O+AMPL panel should be connected to the main carrier.

For **audio related faultfinding** first measure pin 1 IC7225-6F (AUDIO_OUT LF audio signal inclusive BTSC and NICAM info) and TP 42 and 43 at resp pin 5 and 3 of connector Q4 (AF1 and AF2):

* If all OK, the fault is on the 2CS+I/O+AMPL or NICAM or BTSC panel

* If not all OK, the fault is on the main carrier (QSS or IC7225-6F)

Service position MAIN CARRIER

For the main carrier panel with the plugged panels on it there two service positions are possible:

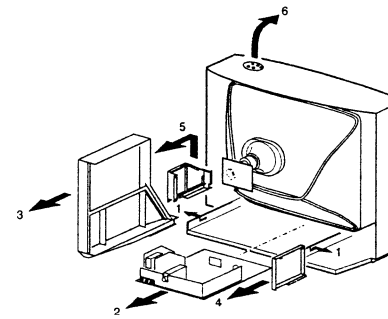
- A: For faultfinding on the component side of the main carrier
- B: For (de)soldering activities on the copper side of the main carrier

Position A can be reached by first shifting out the mains cord fixation block, then loosen the carrier lips (1) and then pulling the carrier panel (2) for approximately 10 cm (all cables to all other panels in the TV can be remained connected).

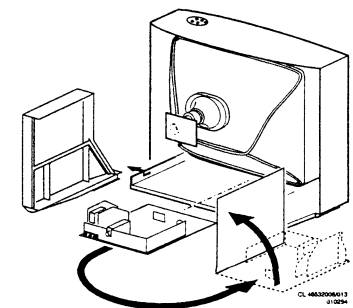
Position B can be reached from position A by disconnecting all cables to the TXT and the 2CS+I/O+AMPL panel and the degaussing cable. Put the carrier on the line transformer side.

Service position 2CS+I/O+AMPL panel and NICAM/BTSC panel

The entire bracket with both the 2CS+I/O+AMPL panel and the NICAM/BTSC panel can be shifted out of the cabinet by pulling backwards the entire bracket (3). By then the bracket with all panels in it can be laid on it's left side (seen from the back) while still connected to the main carrier.



A



B

Also both panels can be easily clicked out of the bracket. The 2CS+I/O+AMPL panel can be shifted backwards after releasing one catching finger on the top part of the bracket. The NICAM or BTSC panel can be released by pulling upwards the middle part of the bracket a little.

Service position MAINS INPUT panel (25" only)

The entire bracket can be shifted out of the cabinet by pulling backwards the entire bracket (4). By then the bracket with the mains input panel in it can be laid on it's left side (seen from the back) while still connected to the main carrier.

Also the mains input panel can easily be clicked out of it's bracket by releasing the 2 catching fingers on the top part of the bracket.

Service position TXT and TXT INTERFACE panel

The entire bracket can be shifted out of the cabinet by lifting the release finger at the bottom side of the bracket with a screwdriver and then pulling backwards the entire bracket (5). By then the bracket with the TXT and TXT interface panel in it can be laid on the left side (seen from the back) while still connected to the main carrier.

Also the TXT and the TXT interface panel can be easily clicked out of the panel by releasing the 2 catching fingers on the top and the back part of the bracket.

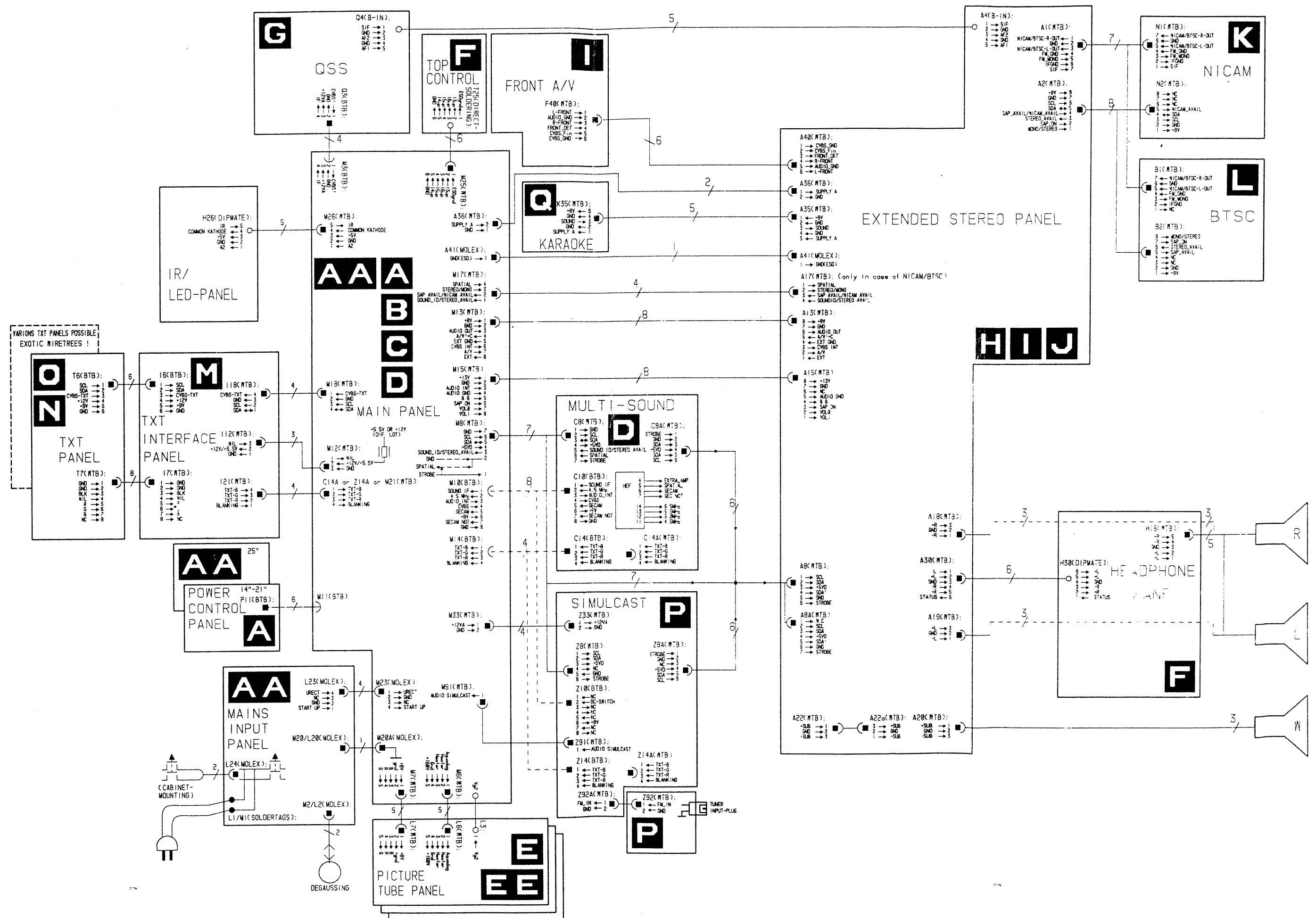
Service position TOP CONTROL panel

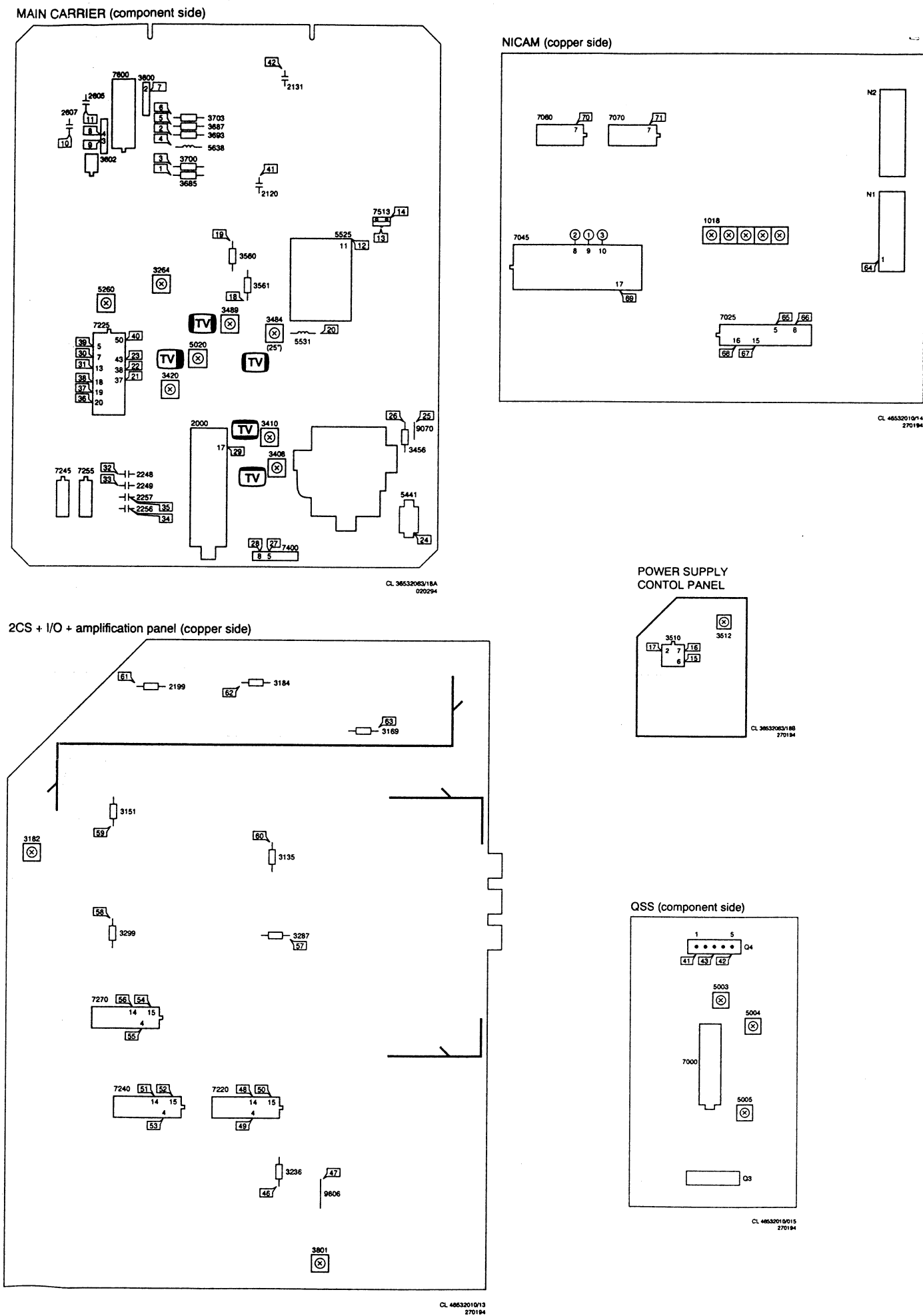
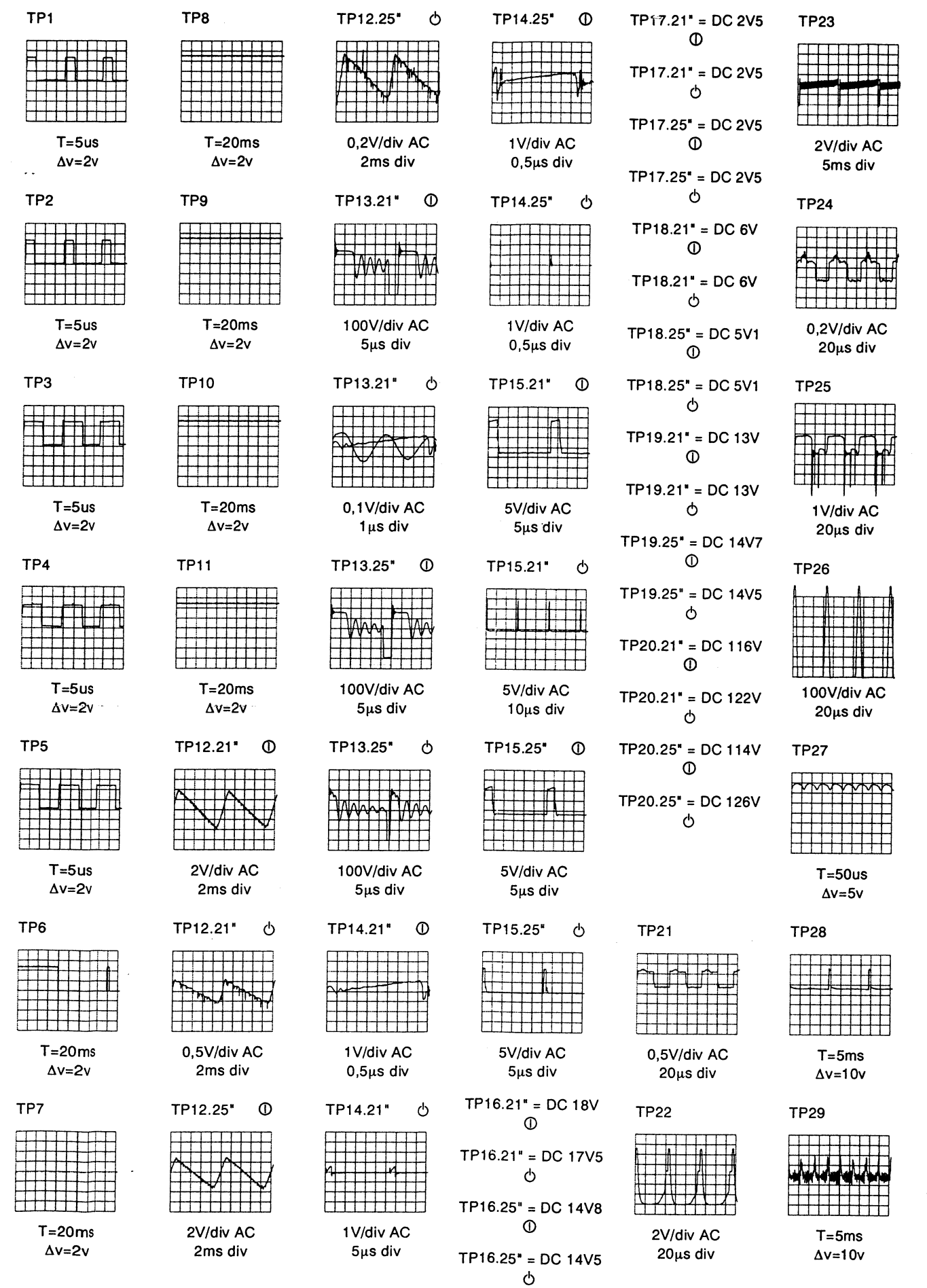
The top control panel can be taken out of the cabinet by first smoothly releasing the click fit on the left under side of the top control bracket (seen from the back) with a small plier. By then "turn" out the bracket with the panel out of the cabinet (6).

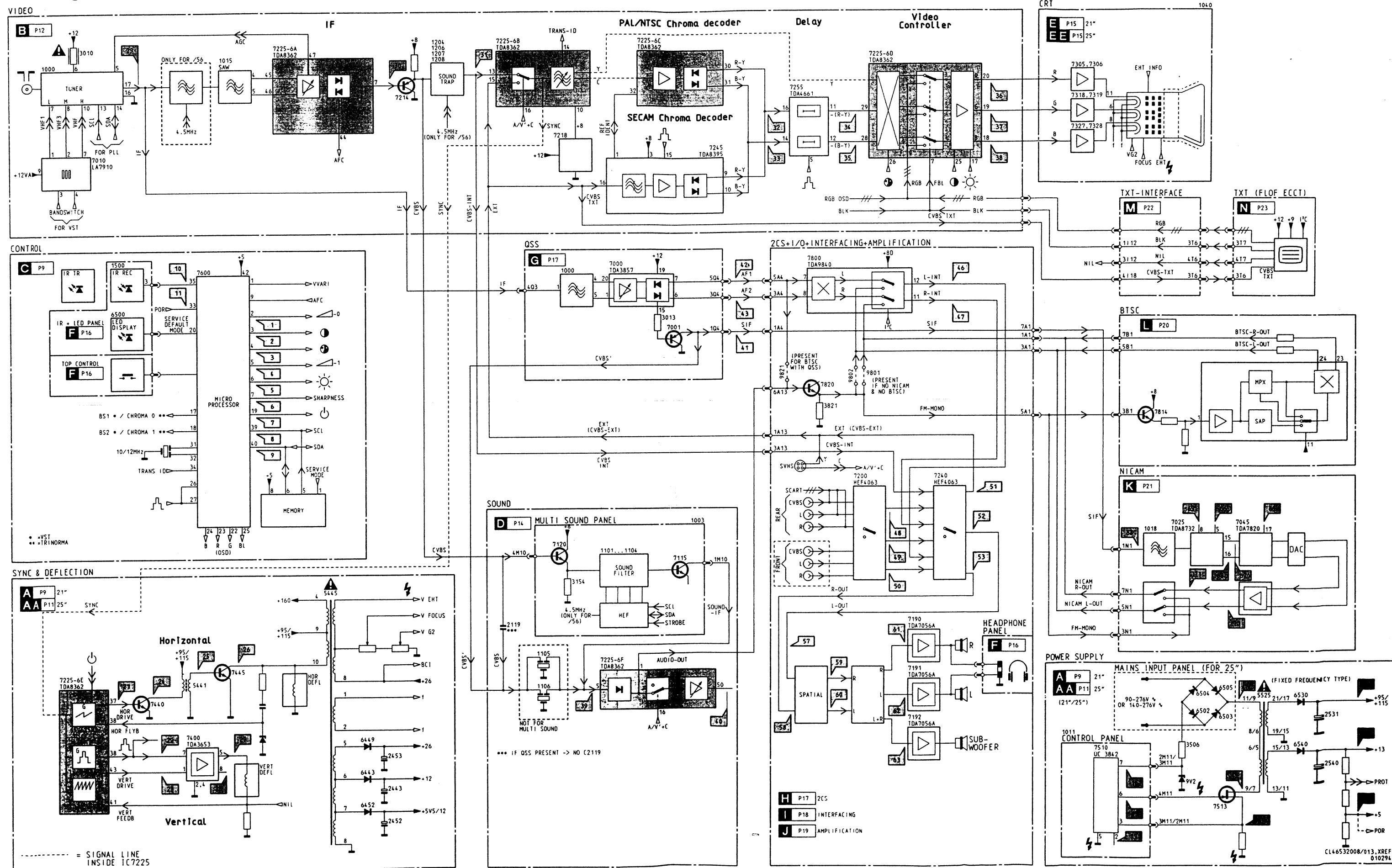
Service position LED + IR panel and HEADPHONE panel

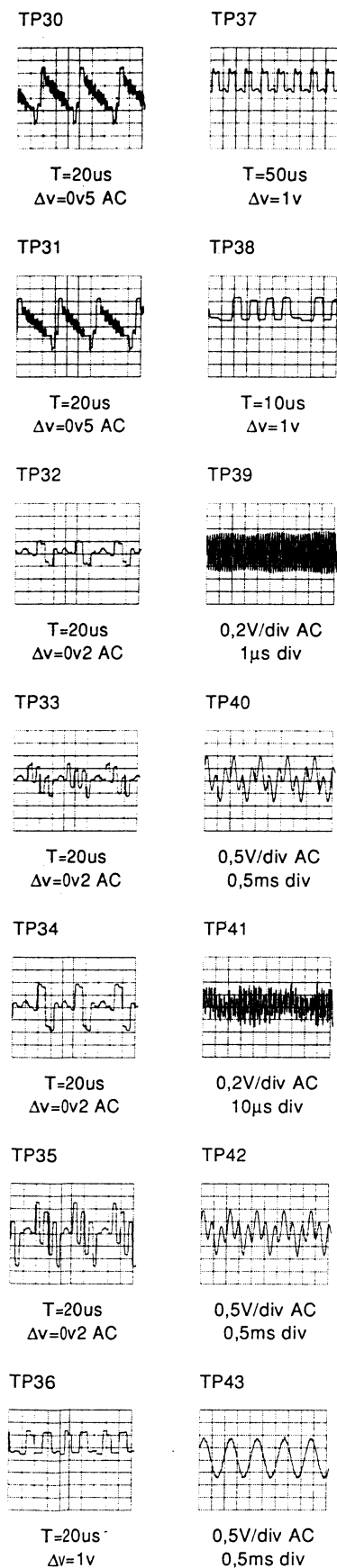
First pull out the main carrier. Then screw out the 2 fixation screws of the LED +IR and headphone bracket. By then pull backwards the bracket with the extended handgrip.

Also the LED + IR panel and the HEADPHONE panel can be easily clicked out of it's bracket by releasing the clicks.

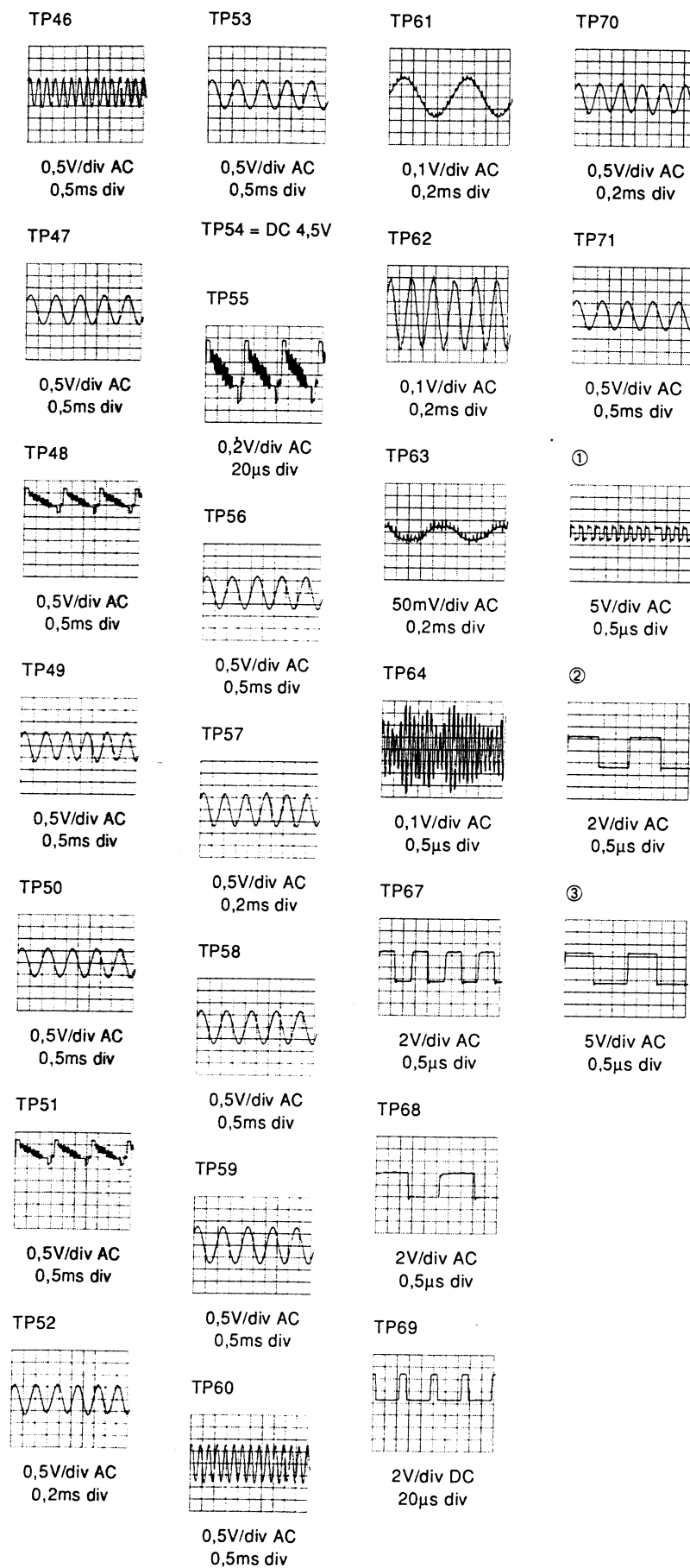






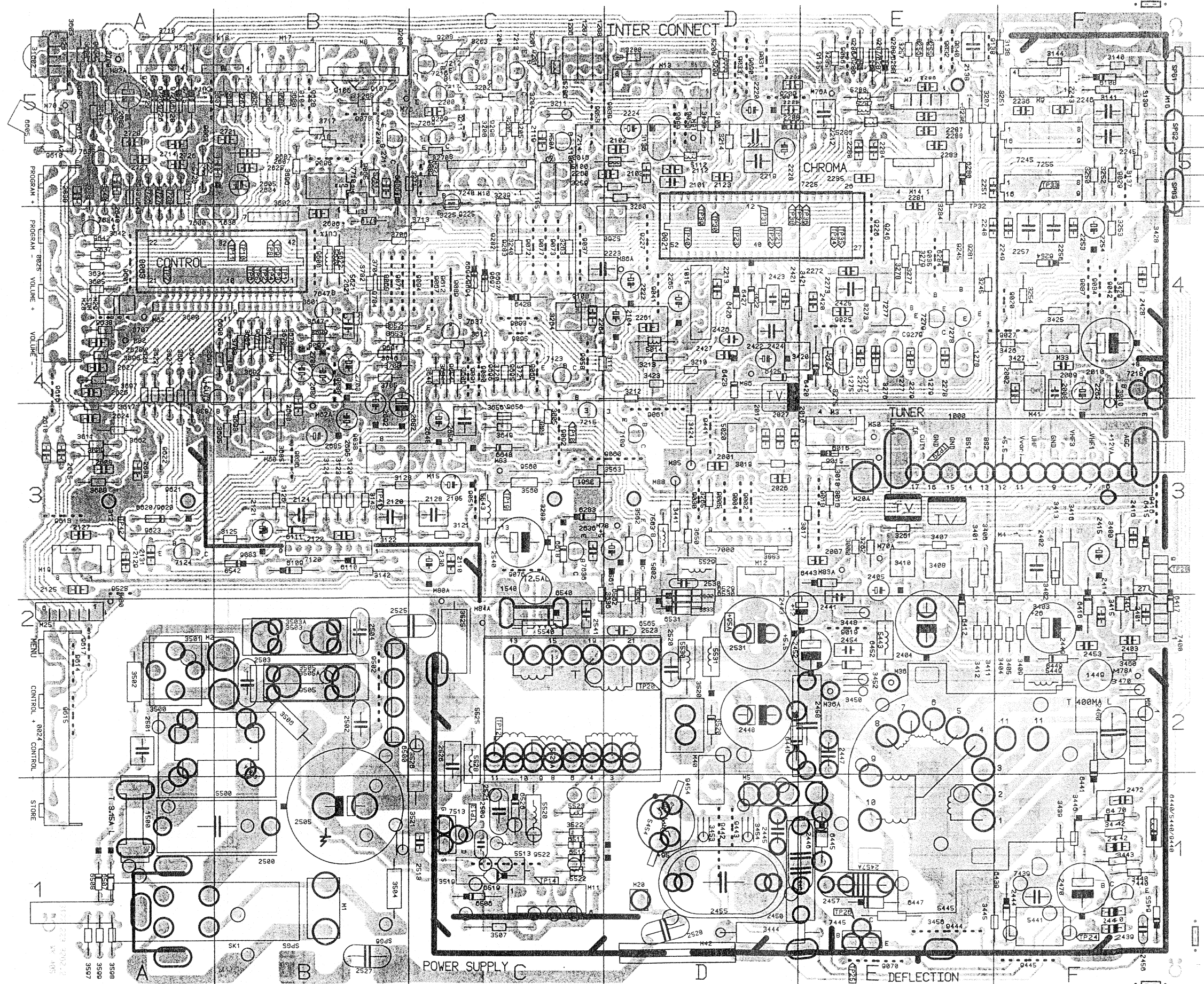


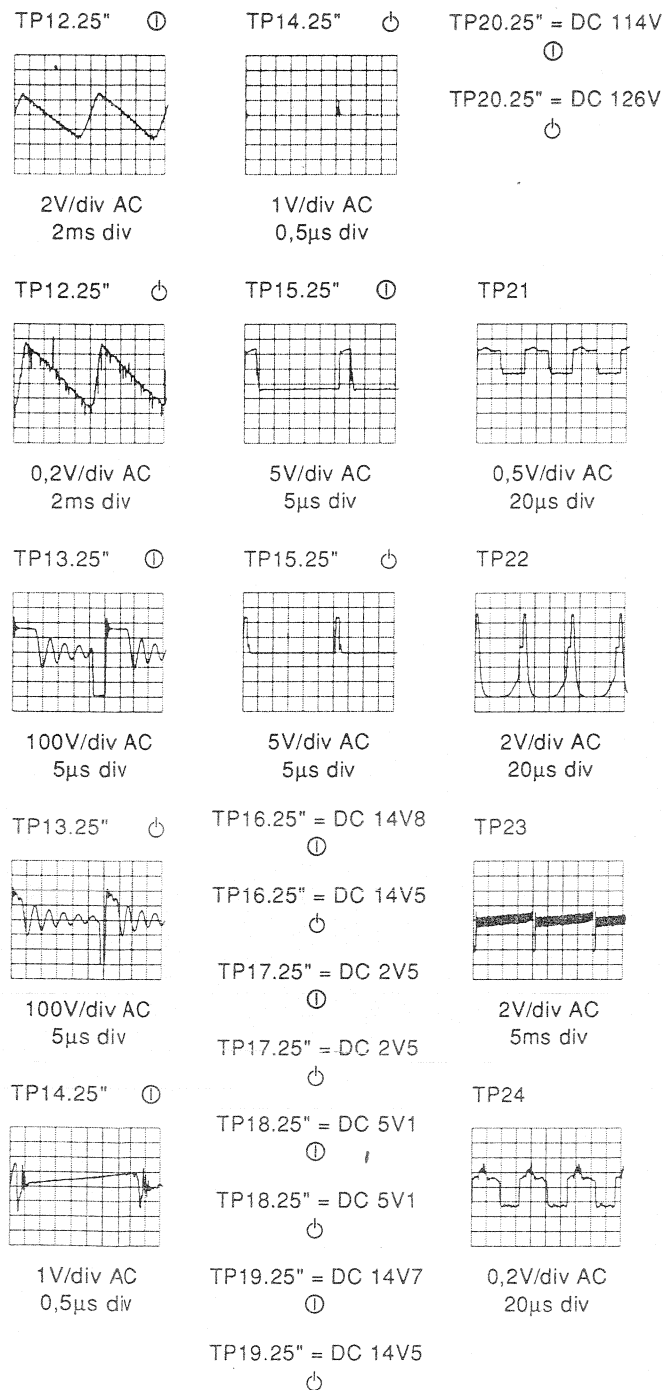
Overview oscillograms / Sumario de oscilogramas



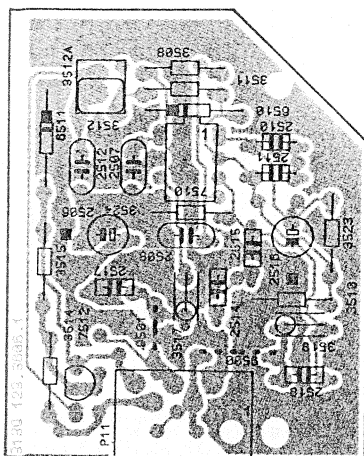
6. Carrier panel 21" / Panel principal 21"

0024	A2	2453	F2	3257	E5	3654	C4	6530	D3	9211	C5
0025	A4	2454	E2	3259	D5	3656	C3	6531	D2	9225	C5
1000	F3	2455	D1	3260	D5	3661	A4	6540	C2	9226	E4
1015	D4	2456	F1	3261	E3	3662	A3	6542	B3	9227	D4
1105	C5	2457	E1	3262	E3	3670	B4	6562	D3	9245	E4
1106	C5	2457	E1	3263	C4	3671	B4	6565	D3	9246	E4
1204	C5	2458	E2	3264	C4	3685	B3	6605	A5	9259	C5
1206	C5	2460	F2	3265	D3	3687	B4	6606	D6	9279	E4
1207	C5	2470	F1	3267	B5	3688	B5	6607	B5	9281	E4
1208	C5	2472	F1	3268	B5	3689	B5	6618	C3	9282	C4
1275	E4	2500	A1	3270	C5	3690	B5	6620	A3	9283	C4
1277	E4	2501	A2	3271	B5	3691	B4	6648	C3	9286	E5
1278	E4	2502	B2	3273	E4	3692	B4	6690	B4	9287	E5
1279	E4	2503	B2	3275	E4	3693	B3	6694	C4	9288	E5
1449	F2	2504	B2	3276	E4	3694	A4	6697	C4	9298	C5
1500	A1	2505	B1	3277	E4	3695	B3	6715	A5	9416	F3
1540	C3	2509	C1	3278	E4	3696	B5	6726	A5	9440	F1
1602	A5	2513	C1	3279	E4	3697	A4	6727	A5	9441	D3
1630	A4	2520	D2	3279	E4	3697	A4	6727	A5	9441	D3
2001	D3	2521	C1	3284	E5	3698	A4	6728	A5	9442	D1
2002	F4	2523	D2	3285	E5	3700	B4	7109	D3	9444	F1
2007	E3	2525	B2	3400	F3	3702	B4	7120	B3	9445	F1
2008	F4	2526	C2	3401	E3	3703	B4	7124	A3	9454	D1
2009	F4	2527	B1	3402	F3	3704	B4	7212	C5	9502	B2
2010	F4	2528	D1	3403	F2	3705	B4	7213	C5	9505	B2
2016	D3	2530	D3	3404	E2	3706	B4	7214	C5	9522	C1
2017	D3	2531	D2	3405	F2	3707	A4	7215	C3	9525	A3
2026	D3	2540	C3	3406	E3	3708	B4	7216	C3	9560	C3
2027	D3	2541	C2	3407	E3	3709	A5	7217	C5	9600	B4
2101	D5	2561	D3	3408	E3	3710	A5	7218	F4	9601	A4
2102	D5	2603	A5	3409	F2	3713	C4	7225	D4	9604	A5
2103	D5	2604	B5	3410	E3	3715	A5	7240	C5	9605	A5
2104	D4	2605	B5	3411	E2	3717	B5	7245	F5	9607	B5
2105	C3	2606	B4	3412	E2	3718	B5	7255	F5	9610	A5
2110	C3	2607	B5	3413	F3	3719	B4	7269	C5	9612	C4
2112	D5	2608	A3	3414	F2	3720	C4	7270	B5	9613	A5
2119	C5	2610	A3	3415	F2	3721	F4	7277	E4	9614	A2
2120	B3	2611	A5	3416	F3	3722	A5	7278	E4	9615	A2
2121	B3	2621	B4	3420	D4	3727	A5	7279	E4	9616	A4
2122	B3	2624	A3	3421	D4	3728	A5	7400	F2	9617	A2
2123	D5	2625	B5	3422	D4	5002	D3	7423	C4	9620	A3
2124	B3	2626	A4	3423	D4	5014	D4	7439	F1	9621	A3
2125	A3	2627	A4	3424	D3	5020	D3	7440	F1	9622	A3
2127	A3	2628	A4	3425	F4	5100	D5	7445	E1	9623	A3
2128	C3	2636	C3	3426	F4	5112	D5	7513	C1	9628	B5
2129	A3	2638	A5	3445	F2	5206	C3	7563	D3	9631	A4
2130	C3	2640	A5	3427	F4	5209	F4	7600	B4	9642	A4
2131	A3	2649	C3	3429	F4	5260	D4	7634	A4	9643	A5
2138	E5	2656	C3	3439	F1	5286	E5	7635	A5	9654	C4
2200	C5	2682	B3	3440	F1	5287	E5	7636	C3	9656	C3
2208	D5	2683	A3	3441	D3	5288	E5	7637	C4	9670	B4
2212	E5	2685	B3	3442	F1	5424	E4	7638	A4	9671	B4
2213	D4	2687	B4	3443	F1	5440	F1	7647	B4	9691	B4
2219	D5	2688	B3	3444	D1	5441	F1	7710	B5	9694	C4
2220	D5	2692	B3	3445	E1	5443	F1	9002	D3	9695	C4
2221	D5	2695	B3	3446	F1	5445	F2	9004	D3	9696	C4
2222	D4	2700	B4	3448	E2	5449	F2	9005	D3	9697	C4
2223	C4	2703	B4	3454	E2	5454	D1	9015	E3	9704	B4
2224	D5	2711	B5	3452	E2	5500	A2	9018	E3	9726	A5
2225	D5	2714	A5	3453	D1	5500	A2	9019	E2	9727	A5
2226	D5	2721	B5	3454	D1	5513	C1	9020	F4	9728	A5
2236	F5	2722	A5	3456	E1	5520	C1	9025	F4	M1	B1
2243	F5	2726	A5	3460	F2	5522	C1	9027	F4	M2	B2
2245	F5	2727	A5	3470	F2	5523	C1	9029	F4	M3	F3
2246	F5	2728	A5	3500	D2	5525	C2	9030	F4	M4	A4
2248	F4	3000	E3	3501	A2	5525	C2	9031	D5	M5	D1
2249	F4	3003	D3	3502	A2	5528	C2	9032	E5	M6	F2
2251	E5	3004	C3	3503	B2	5529	D3	9033	D5	M7	E5
2253	F4	3005	C3	3503	B2	5530	D2	9034	F4	M8	B5
2254	F4	3010	F4	3504	B1	5531	D2	9035	E4	M9	F5
2256	F4	3016	E3	3505	B2	5532	D3	9036	B3	M10	C5
2257	F4	3017	E3	3505	B2	5533	D2	9037	C4	M11	C1
2260	C5	3018	E3	3506	B2	5540	C2	9038	E3	M12	D3
2261	D4	3019	D3	3507	F1	5543	D3	9039	C5	M13	C5
2262	F4	3106	D5	3519	C1	5620	B4	9040	E5	M14	E5
2264	C4	3113	C4	3520	D2	5621	B4	9041	D4	M15	C3
2265	D4	3121	C3	3521	B1	5622	B4	9042	F4	M16	F5
2272	E4	3122	B3	3522	C1	5711	B5	9050	D5	M17	B5
2273	E4	3123	B3	3525	C2	5720	A5	9051	C3	M18	B5
2275	E4	3124	B3	3526	C2	6016	E3	9053	C5	M19	A3
2277	E4	3125	B3	3560	C3	6108	F5	9056	E5	M20	D1
2278	E4	3126	B3	3561	C3	6109	F5	9058	C4	M20A	C3
2279	E4	3127	A3	3562	D3	6110	B3	9060	C3	M21	A2
2280	E4	3128	B3	3563	D3	6111	B3	9061	D3	M22	A2
2281	E4	3129	B3	3565	D3	6254	F4	9062	A5	M26	A5
2282	D5	3130	D5	3597	A1	6280	E5	9065	B5	M28	A4
2283	E5	3136	D5	3598	A1	6283	C3	9066	C4	M29	A4
2284	E5	3137	F5	3599	A1	6284	E4	9067	C4	M31	B5
2285	E5	3138	E5	3600	A4	6288	E5	9069	B4	M32	C5
2286	E5	3139	F5	3601	B4	6287	E5	9070	E1	M33	F4
2287	E5	3140	F5	3602	B4	6288	E5	9071	B4	M35	E2
2288	E5	3141	F5	3603	A5	6412	E2	9072	C4	M36A	E2
2401	F2	3142	B3	3604	A5	6415	F3	9073	C4	M40	D2
2402	F3	3143	B3	3605	A4	6416	F2	9075	C3	M41	F4
2403	F2	3144	F5	3606	C4	6417	F2	9077	C4	M42	D1
2404	E2	3200	C5	3607	B5	6420	E4	9078	B5	M50	E3
2405	E3	3201	C5	3608	A3	6423	D4	9080	C4	M50A	C5
2414	F2	3202	C5	3609	A3	6425	D4	9082	C5	M60	B3
2415	F3	3203	C5	3610	A5	6426	D4	9083	B3	M62	A4
2416	F3	3204	C5	3611	A5	6427	D4	9087	F4	M62A	B3
2420	D4	3205	C5	3612	C4	6428	C4	9088	B4	M70	A5
2421	D4	3206	C5	3617	A3	6439	F1	9089	C4	M70A	E3
2422	D4	3207	E5	3622	A4	6440	F1	9090	D5	M76	B5
2423	D4	3208	D5	3625	B5	6441	F2	9091	C4	M76A	E5
2424	D4	3209	D5	3626	A4	6443	E3	9092	C3	M78	D3
2425	E4	3210	D4	3627	A4	6445	E1	9093	C4	M78A	F2
2426	D4	3211	C5	3634	A4	6446	D2	9094	C4	M80	A2
2427	D4	3212	D4	3635	A5	6447	E1	9095	C4	M80A	C2
2428	F4	3213	D4	3636	C3	6449	F2	9096	B5	M82	A4
2439	F1	3214	D5	3637	A4	6452	E2	9097	B4	M82A	E5
2440	F1	3225	E5	3638	A5	6455	F1	9099	D5	M83	C3
2441	E2	3236	E5	3640	A5	6470	F1	9100	D5	M83A	E5
2442	F1	3239	C5	3641	A5	6500	B2	9104	B5	M84	C3
2443	D2	3240	C4	3642	A4	6506	C1	9106	B5	M84A	E2
2444	F1	3245	E4	3643	A5	6507	A1	9107	B5	M85	D3
2445	D1	3250	F5	3646	B4	6508	A1	9108	C4	M86	D4
2446	E1	3251	E5	3647	B4	6512	C1	9135	E5	M86A	D4
2447	D2	3252	F5	3648	C1	6513	C1	9136	E5	M87	D3
2448	D2	3253	F4	3649	C3	6519	C1	9200	B5	M91	D5
2449	F2	3254	F4	3650	D3	6520	D2	9201	C5	SK1	B1
2450	D1	3255	E5	3652	B4	6526	C1	9208	C5		
2452	E2	3256	E5	3653	B4	6529	D2	9209	D5		





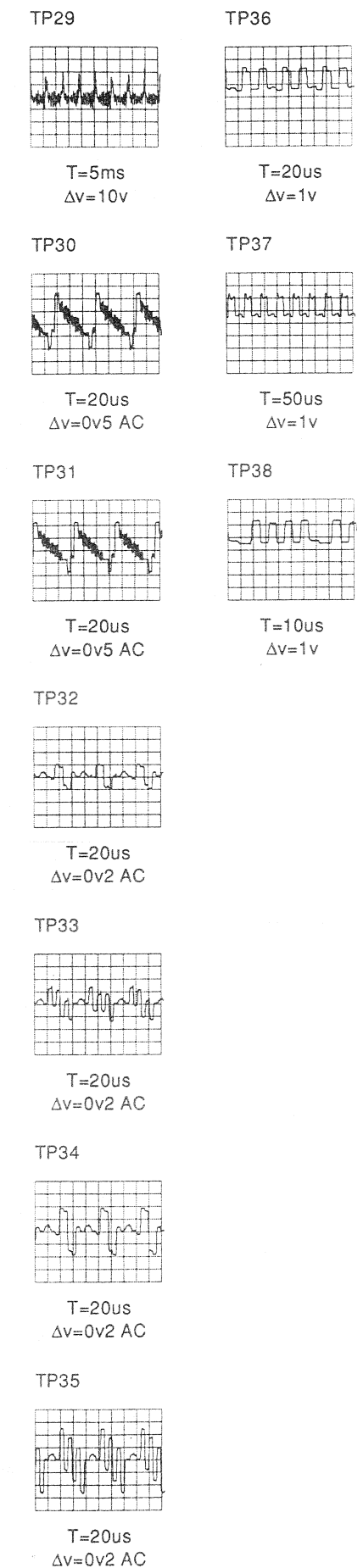
Power supply control panel 25"

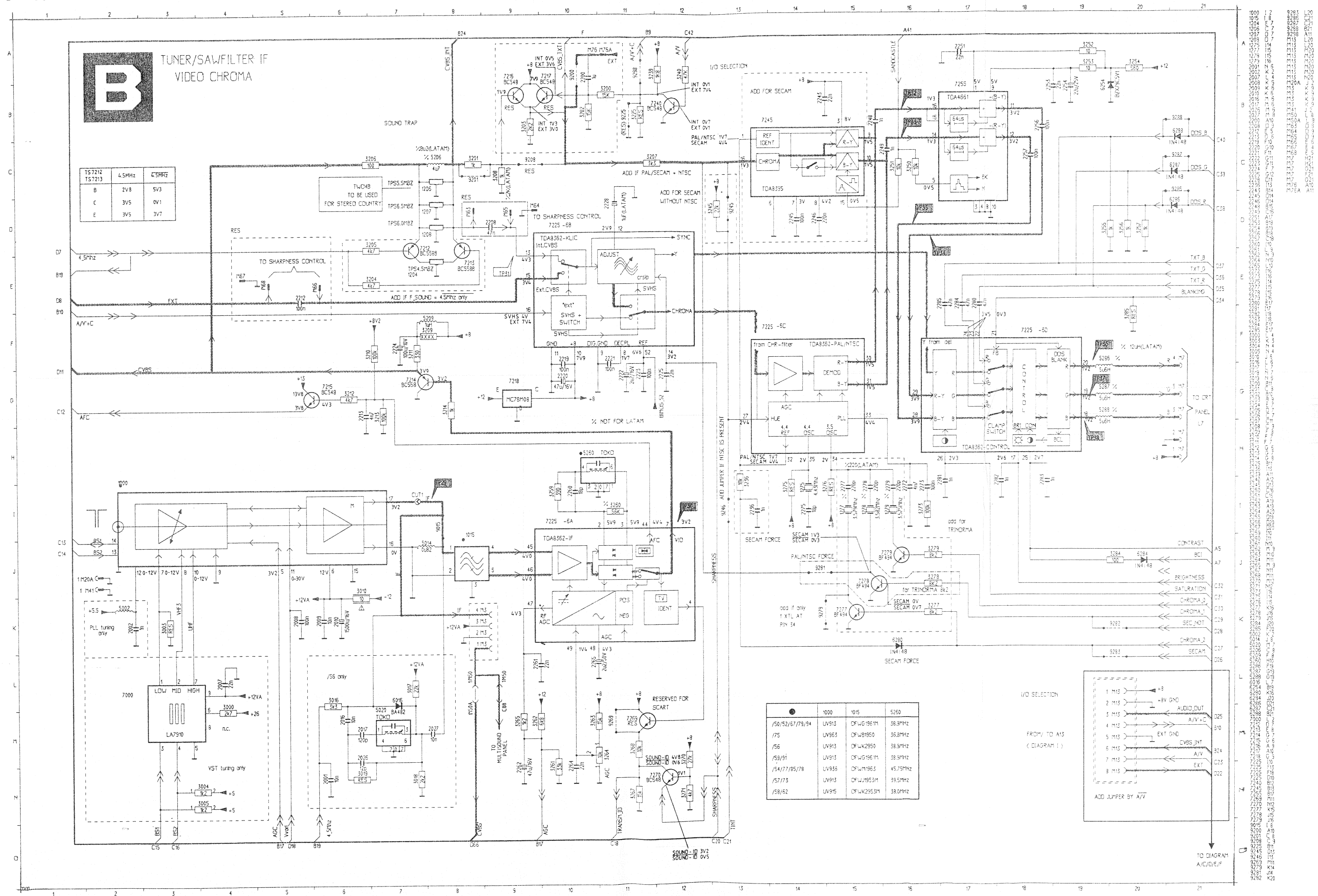


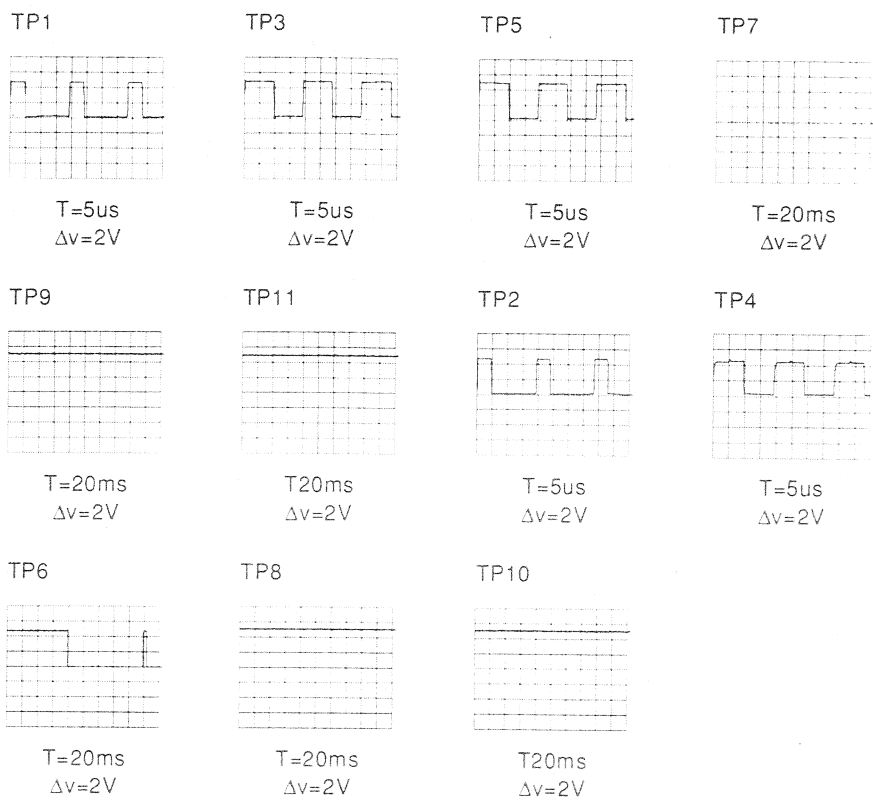
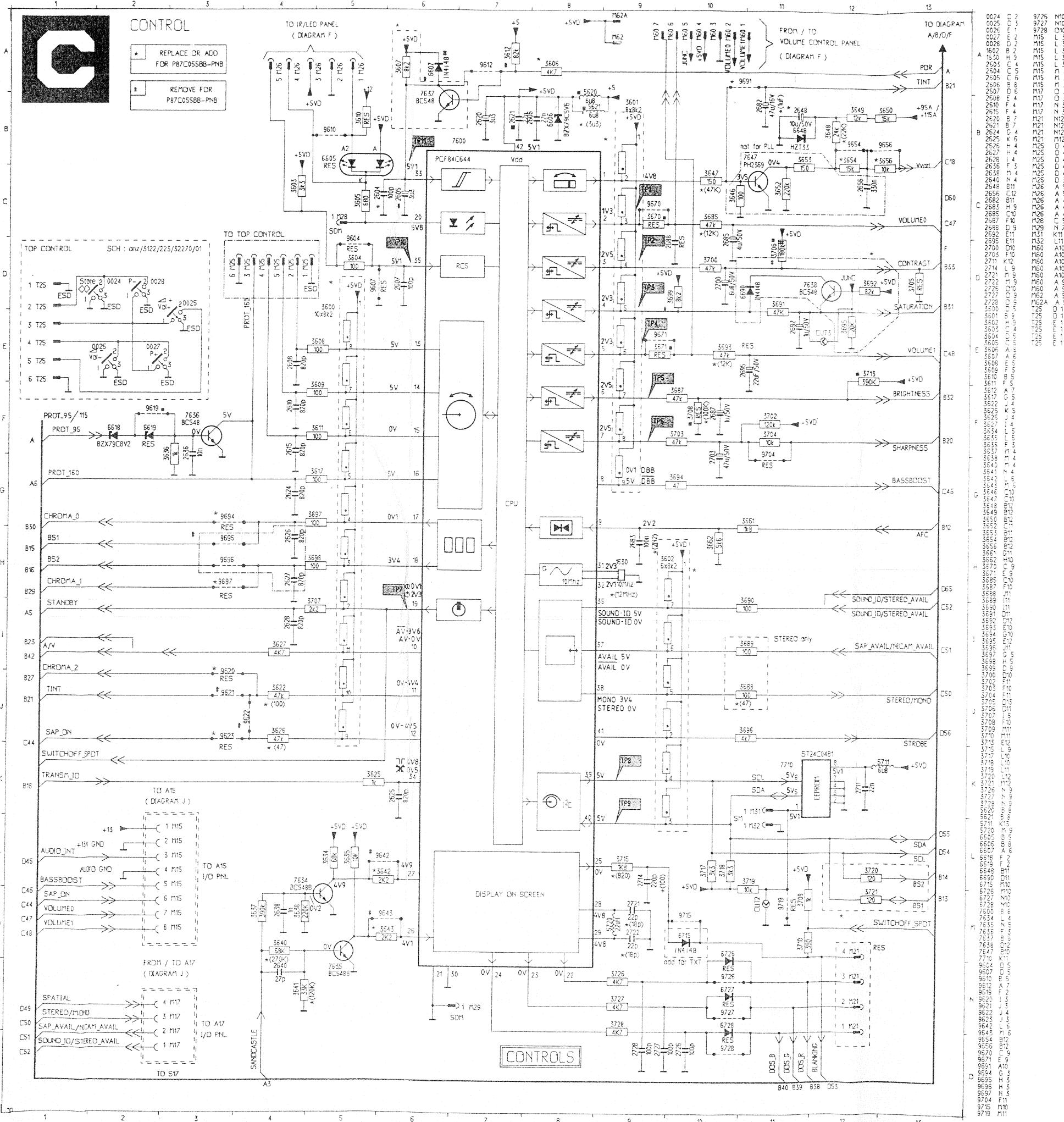
P11		M11
1	— GND - HOT	1
2	— FEEDBACK	2
3	— START - UP	3
4	— DRIVE	4
5	— SENSE	5
6	— SENSE	6

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Tuner + IF + Video

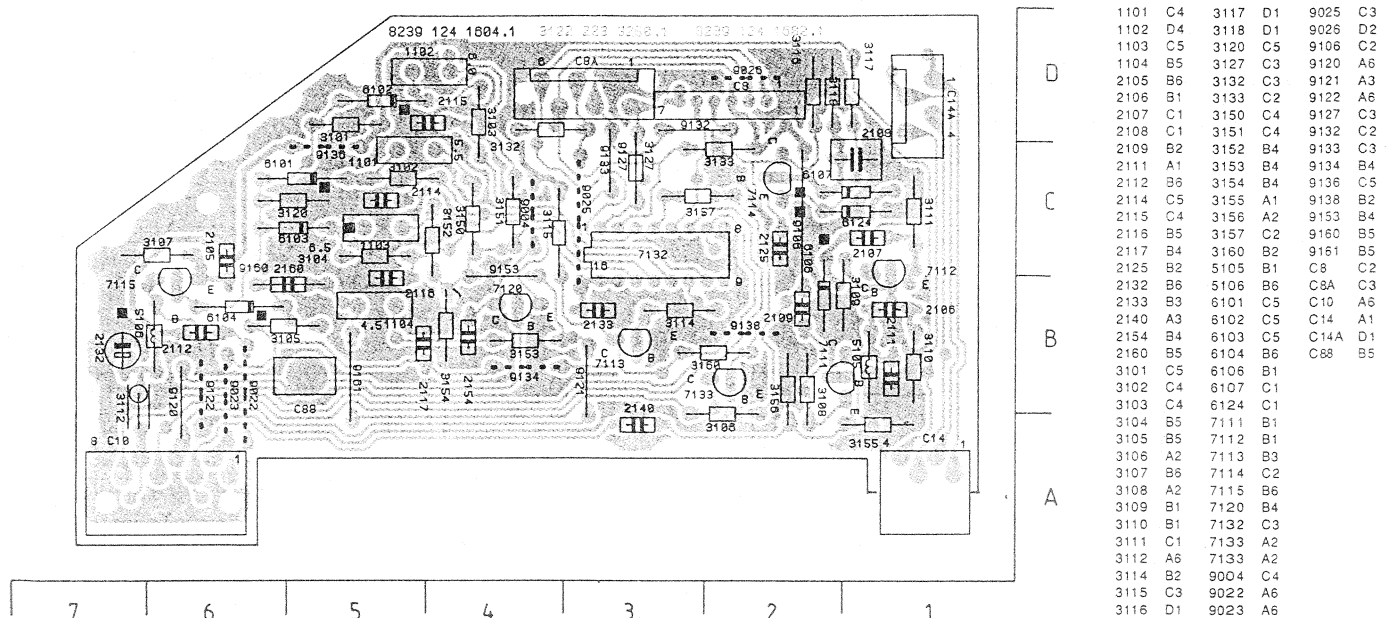






for PCA84C844P	21"	25"
2621	22n	--
3670	560Ω	jumper
3671	560Ω	jumper
3706	--	180k
3708	100k	--
3713	--	390k
5620	3μ3	6μ8
5621	3μ3	6μ8
9619	--	jumper

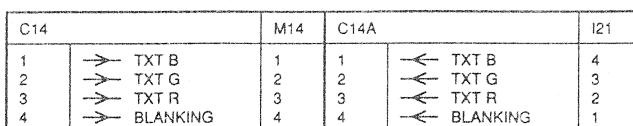
for P87C055BBPNB (South America)	21"	25"
2620	--	1μ
2621	22n	--
3708	100k	--
3713	--	390k
9619	--	jumper

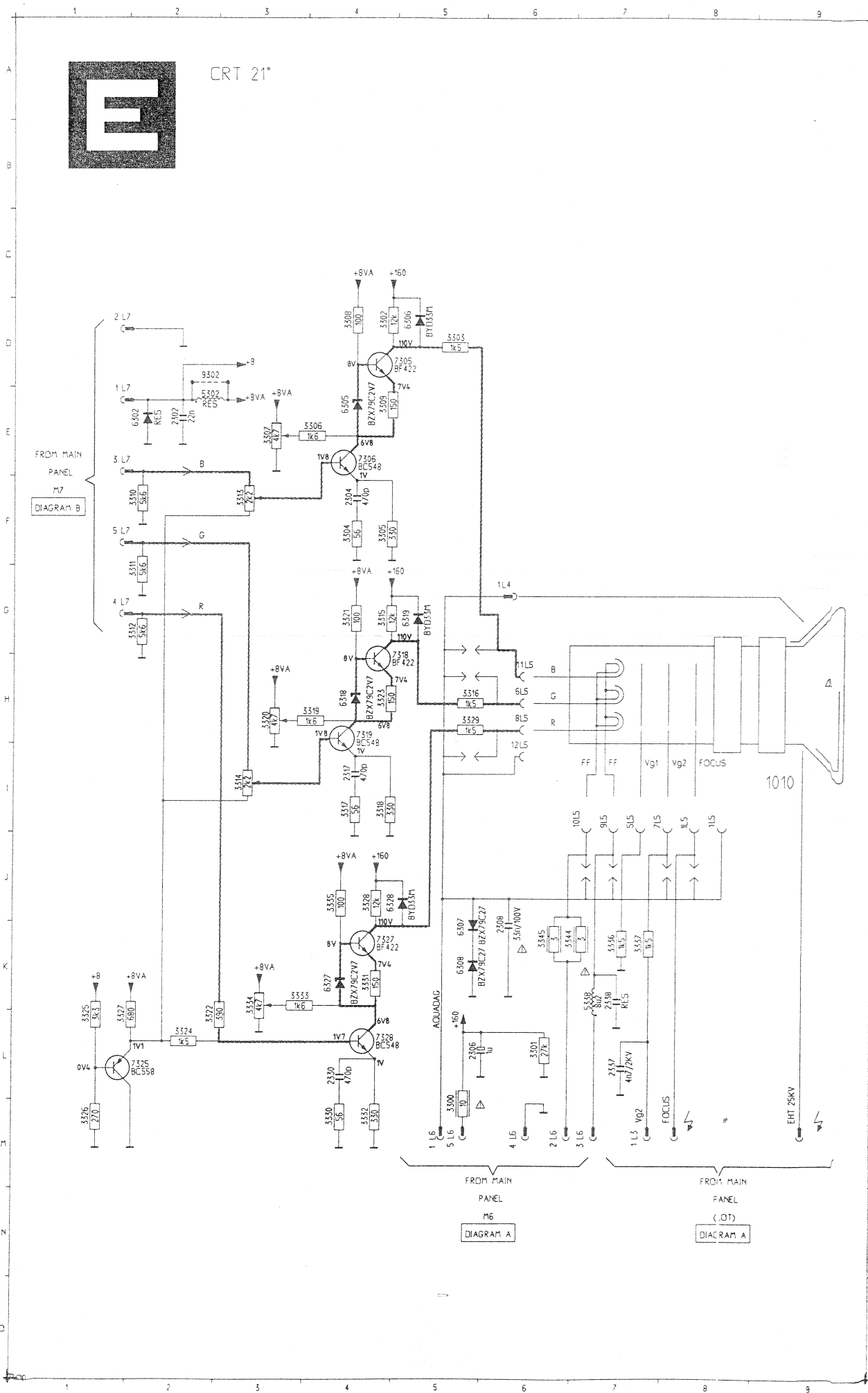


List of abbreviations / Lista de abreviatures

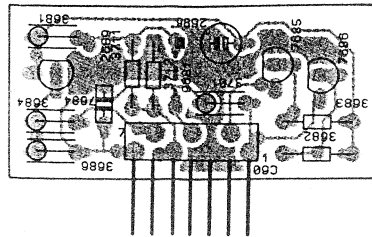
+95/+115	+95/+115 Supply voltage from the power supply to the line output stage	NIL	Non Interlace
2CS	Two carrier system (stereo sound system with 2 different sound carriers for L+R and 2R sound info)	NOT-SVHS	Status signal; "open" if SVHS connector inserted and "high" if SVHS connector not inserted
4.5 MHz	Status signal; "low" sound trap also blocks 4.5 MHz and SAW filter adjusted at 33.4 MHz (for NTSC M)	NTSC	National Television System Committee
A/V	Status signal; "high" for external CVBS, "low" for internal CVBS	OSD (DOS)	On Screen Display (in diagrams Display On Screen)
A/V	Status signal; "low" for external CVBS, "high" for internal CVBS	PB	Play Back
A/V (8V)	Status signal; "low" (0V) for external CVBS, "high" (8V) for internal CVBS	PLL	Phase Locked Loop
A/V + C	A/V status signal with chrominance part of SVHS superimposed on it	POR	Power On Reset
AF1	Demodulated audio signal L + R (so low frequency audio signal)	PROT_160	Status signal; switching set in standby in case beam current is too high (so BCI too low)
AF2	Demodulated audio signal 2R (so low frequency audio signal)	PROT_95/+115	Status signal; switching set in standby in case +95 exceeds 110V/+115 exceeds 130V
AFC	Automatic Frequency Control	QSS	Quasi Split Sound; Extracts L+R and 2R LF audio output and SIF info from tuner IF
AGC	Automatic Gain Control	R-INT	Low frequency 2CS demodulated (IC7800) sound from R-channel
AUDIO_INT	Volume controlled LF audio signal from pin 50 IC7225-6F (mono FM sound decoder) to Multisound panel	RC5	Remote Control 5 system
AUDIO_OUT	Not volume controlled LF audio signal from pin 1 IC7225-6F (mono FM sound decoder) via 2CS panel to BTSC or NICAM	RGB	Red Green Blue
BASSBOOST	Status signal; "low" for bassboost "on"	SAP	Second Audio Program
BCI	Beam Current Info; If beam current increases the BCI signal decreases	SAP_AVAIL	Status signal; pulled "low" by BTSC panel if SAP is available
BF_VOLUME	Pulse width modulated volume control signal from µP before Volume Control Panel	SAP_ON	Status signal; "low" for SAP selected
BIMOS_52	Signal coming from pin 52 IC7225-6B to pin 36 IC7225-6E preventing IC7225 being "hanged" at ESD flashes	SAW	Sawtooth signal coming from frame IC7400 which is inverted and integrated to an inverted parabola for E/W correction in 25"
BS1	For VST sets bandswitching signal, for PLL sets SDA from I ² C	SCL	Clock of the I ² C-bus
BS2	For VST sets bandswitching signal, for PLL sets SCL from I ² C	SDA	Data of the I ² C-bus
BTSC	Broadcast Television System Committee (L-R and L+R)	SDM	Service default mode
C-REAR	Chrominance part from SVHS signal	SEC	Status signal; "low" forces IC7225-6C to SCAM (Sequential Couleur à Memoire) chroma decoding mode
CRT	Picture tube	SHARPNESS CONTROL	Provision for possible future enhanced sharpness control features
CVBS	Colour Video Blanking Sound	SIF	Second Intermediate Frequency; Signal with only audio info on 5.5, 5.74, 6.5 and/or 6.74 MHz sound carrier(s) (same signal as CVBS)
CVBS'	Signal with only audio info on 5.5, 5.74, 6.5 and/or 6.74 MHz sound carrier(s) (same signal as SIF)	SM	Service mode
CVBS_INT	Off-air CVBS (from tuner) after sound trap to I/O + interface panel	SOUND_ID	Status signal; pulled "low" by multisound panel if current selected sound system is not correct
EEPROM	Electrical Erasable Programmable Read Only Memory	SOUND_IF	LF sound signal from Multisound panel to FM mono decoder IC7225-6F
EXT	Extra High Tension (25 kV)	SPATIAL	Status signal; "high" gives spatial mode
EXT (Y)	CVBS from I/O + interface panel (EXT) or luminance part of SVHS (Y)	STATUS	Status signal; DC level at positive side C2117 "high" if headphone inserted and "open" if no headphone
FM-MONO	Low frequency FM demodulated sound from IC7225-6F	STEREO/MONO	Status signal; "low" for stereo, "high" for mono
FRONT-ID	Status signal only used if front AV IN is present; "high" if CVBS front plug is inserted so FRONT AV and "low" for REAR AV	STEREO_AVAIL	Status signal; pulled "low" by BTSC decoder if stereo sound is available
HOR	Horizontal	STROBE	Strobe signal from microprocessor to control IC7132 at multisound panel
HUE	Tint adjustment for NTSC system	SWITCHOFF SPOT	Status signal equal to standby status signal directly activating blanking at switching set to standby
I ² C	Digital control bus of the microcomputer	TINT	Pulse width modulated control signal for hue control
IF	Intermediate Frequency	TRANS_ID	Status signal; "high" for hor. sync. present a video identification
IF	IF signal from tuner to QSS panel	V-in	The DC voltage across C2505 present at pin 11 of the primary side of the transformer
JUNC	Power supply voltage coming from volume control panel supplying saturation control at diagram C	V-VARI	Tuning voltage (0-30V for VST, 30V for PLL)
KAR_SUPPLY	Supply voltage for Karaoke (optional)	VG2	Voltage on Grid 2 of the picture tube
L-INT	Low frequency 2CS demodulated (IC7800) sound from L-channel	VST	Voltage Synthesized Tuning
MPX	Multiplexed BTSC signal	Y	Luminance part of the video signal
MUTE	Status signal; equal to SOUND-ID status signal from multisound muting the sound at system search	Y-REAR	Luminance part from SVHS signal
NICAM_AVAIL	Status signal; pulled "low" by NICAM panel if NICAM available		

C10	M10	C8	M8	C8A	A8
1	→ SOUND IF	1	← GND	1	← NC
2	→ 4.5MHz	2	← SCL	2	← GND
3	← AUDIO - INT	3	→ SDA	3	→ MUTE
4	← CVBS	4	← +5VD	4	← NC
5	→ SECAM	5	→ SOUND ID/	5	→ SDA
6	← +8V	6	STEREO AVAIL	6	→ SCL
7	→ SECAM NOT	7	← SPATIAL		
8	← GND	8	← STROBE		





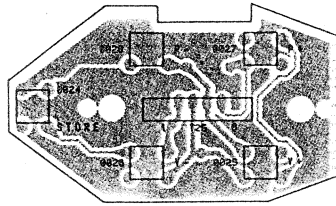
Volume control panel



C60	M60
1 → VOLUME 1	7
2 → VOLUME 0	6
3 → GND	5
4 → +5V	4
5 → JUNC	3
6 → BF - VOLUME 0	2
7 → BF - VOLUME 1	1

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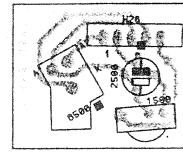
Top control panel



T24	M25
1 → ESD GND	1
2 → 13UP	2
3 → 16UP	3
4 → 15UP	4
5 → 14UP	5
6 → GND	6

CL 46532008/11K
270194

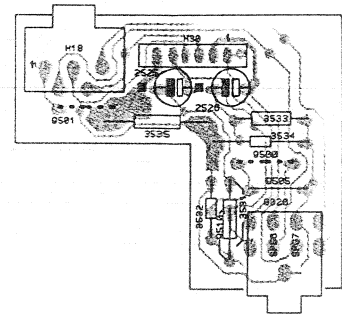
LED + IR panel



H26	M26
1 → A2	1
2 → GND	2
3 → +5V	3
4 → COMMON-KATHODE	4
5 → IR	5

CL 46532008/11L
270194

Headphone panel



H18	LS	H30	A30
1 → -L	-L	1 → STATUS	6
2 → +L	+L	2 → +R	5
3 → GND		3 → -R	4
4 → -R	-R	4 → GND	3
5 → +R	+R	5 → +L	2
		6 → -L	1

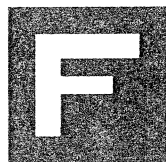
CL 46532008/11M
270194

A15	M15	A8	C8A	A4	Q4	A1 (NICAM)	N1
1 → VOL 1	8	1 → SCL		1 → SIF	1	1 → NICAM /	7
2 → VOL 0	7	2 → SDA		2 → GND	2	2 → BTSC - R - OUT	
3 → SAP ON	6	3 → NC		3 → AF2	3	3 → GND	6
4 → BASS BOOST	5	4 → MUTE		4 → GND	4	4 → NICAM /	5
5 → AUDIO GND	4	5 → GND		5 → AF2	5	5 → BTSC - L - OUT	
6 → NC	3	6 → NC				6 → FM - GND (AGND 3)	4
7 → GND	2					7 → FM - MONO	3
8 → +13V	1					8 → IF - GND	2
						9 → SIF	1
A13	M13	A8A	M8	A2 (NICAM)	N2	A1 (BTSC)	B1
1 → EXT	8	1 → NC	7	1 → NC	8	1 → NICAM /	7
2 → A/V	7	2 → SCL	6	2 → NC	7	2 → BTSC - R - OUT	
3 → CVBS INT	6	3 → SDA	5	3 → NC	6	3 → GND	6
4 → EXT GND	5	4 → NC	4	4 → NICAM - AVAIL	5	4 → NICAM /	5
5 → A/V + CHROMA	4	5 → MUTE	3	5 → SDA	4	5 → BTSC - L - OUT	
6 → AUDIO OUT	3	6 → GND	2	6 → SCL	3	6 → FM - GND	4
7 → GND	2	7 → NC	1	7 → GND	2	7 → FM - MONO	3
8 → +8V	1			8 → +8V	1	8 → IF - GND	2
A17	M17	A40	F40	A2 (BTSC)	B2	A19	LS
1 → SPATIAL	4	1 → CVBS - GND	6	1 → STEREO/MONO	8	1 → -L	-L
2 → STEREO/MONO	3	2 → CVBS - FRONT	5	2 → SAP - ON	7	2 → GND	
3 → SAP AVAIL /	2	3 → FRONT - ID	4	3 → STEREO - AVAIL	6	3 → +L	+L
4 → NICAM AVAIL /	1	4 → R - FRONT	3	4 → SAP - AVAIL	5		
5 → SOUND ID /		5 → AUDIO - GND	2	5 → NC	4		
6 → STEREO AVAIL		6 → L - FRONT	1	6 → NC	3		
				7 → GND	2		
				8 → +8V	1		
A36	M36	A30	H30	A18	LS	A20	LS
1 → SUPPLY A	2	1 → -L	6	1 → -R	-R	1 → +SUB	+SUB
2 → GND	1	2 → +L	5	2 → GND		2 → GND	
		3 → -R	4	3 → +R	+R	3 → -SUB	-SUB
		4 → +R	3				
		5 → STATUS	2				
			1				
A41	M41					A22	A22A
1 → GND	1					1 → +SUB	3
						2 → GND	2
						3 → -SUB	1

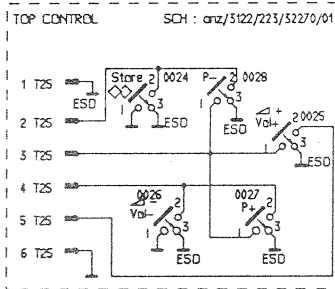
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270194

3105	G7	3276	F5
3106	F7	3277	F5
3108	F7	3278	F5
3110	G8	3283	F7
3112	G7	3285	B7
3115	G7	3286	B7
3116	G7	3287	D6
3120	D7	3289	G6
3121	F7	3290	F4
3124	D7	3294	D7
3126	E7	3295	D7
3130	H7	3296	G7
3135	D7	3297	F7
3136	G9	3300	B8
3137	G8	3311	E4
3140	G9	3315	G2
3141	G8	3316	G2
3143	F8	3320	G2
3144	F8	3321	G3
3145	F8	3325	G3
3146	F8	3801	C1
3147	E8	3803	D1
3148	F8	3804	D1
3149	E8	3807	B1
3150	D8	3808	C3
3151	G8	3810	B1
3152	D8	3811	B1
3153	F8	3820	E2
3154	E8	3821	D1
3155	E8	3822	E1
3156	F8	3823	H2
3157	C8	3824	F1
3158	D8	3825	F2
3159	D7	3826	F2
3160	F10	3827	F2
3161	E9	3828	F1
3162	D10	3829	F1
3163	D9	3900	H9
3164	C8	3901	H9
3165	A8	5200	F3
3166	A8	5201	D6
3167	B8	5801	C2
3168	B8	6101	E7
3169	C9	6140	G8
3170	F8	6186	C10
3171	D8	6190	F7
3172	C8	6191	D8
3173	C8	6192	D9
3174	D8	6193	F8
3175	B8	6194	F9
3176	B8	6195	E8
3177	B8	6196	B8
3178	D9	6197	D6
3179	E10	6198	G6
3180	E10	6199	B10
3181	B8	6201	C5
3182	A8	6202	B5
3183	F10	6203	C5
3184	D10	6204	C5
3185	F10	6205	B7
3186	D10	6206	H5
3187	B10	6207	H5
3188	B10	6208	B7
3189	B8	6217	B4
3190	H7	6222	B7
3191	A8	6270	E4
3192	G6	6275	E7
3193	H6	6295	E7
3194	H7	6296	B9
3195	H6	6297	B4
3196	B9	6298	G3
3197	A9	6823	F2
3198	B10	6828	F2
3199	A9	7105	F7
3201	B5	7106	F6
3202	B5	7110	F7
3203	D5	7115	G7
3204	B5	7120	E6
3205	B4	7125	G7
3206	C5	7130	G7
3207	C4	7135	E7
3208	B5	7140	G8
3209	B4	7150	D8
3210	B7	7151	D7
3211	C7	7152	E8
3212	H5	7190	F9
3213	B7	7191	D9
3214	H5	7192	B9
3215	C6	7195	G5
3216	B6	7194	H6
3220	D4	7195	C8
3221	C4	7199	B10
3223	C3	7205	C5
3224	C3	7208	C4
3225	C3	7219	E4
3226	B4	7220	E3
3227	D4	7221	D4
3228	C4	7240	F3
3229	E3	7250	G3
3230	D3	7260	F8
3231	D3	7261	F7
3232	D3	7265	E6
3233	D3	7266	E7
3235	E3	7271	G5
3236	D2	7271	G6
3238	D3	7275	F5
3239	G2	7280	F5
3241	B3	7285	C7
3242	D5	7291	F4
3243	B3	7315	G3
3244	C4	7320	G3
3245	H4	7325	G5
3246	D5	7800	C2
3247	D4	7820	E2
3248	F4	7825	E2
3249	F4	7828	F1
3250	G4	7829	F1
3251	G4	9000	B8
3252	C7	9001	F9
3253	F6	9002	F9
3254	C6	9003	E8
3255	F6	9004	D9
3256	E5	9005	C8
3257	F7	9006	D8
3258	F7	9007	C8
3259	F6	9008	B5
3260	F7	9009	D7
3261	E6	9010	F7
3262	E5	9011	F6
3263	E6	9012	D6
3264	F6	9013	C4
3265	E7	9014	D4
3266	C8	9015	D4
3267	C6	9016	E2
3268	B6	9017	C2
3269	B6	9018	C3
3270	G5	9019	D6
3271	G5	9020	D4
3272	E5	9021	D2
3273	H5	9022	D3
3275	E5	9023	H6

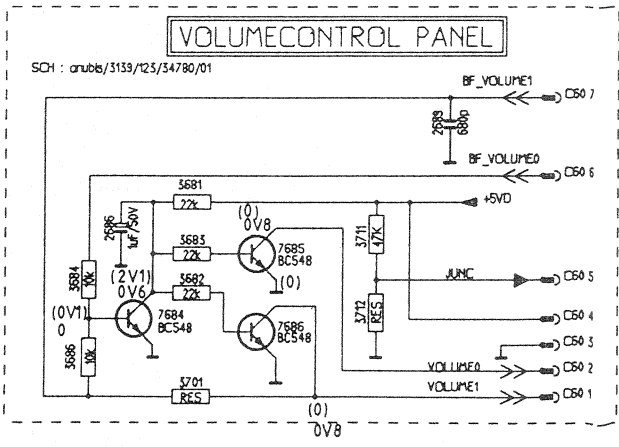
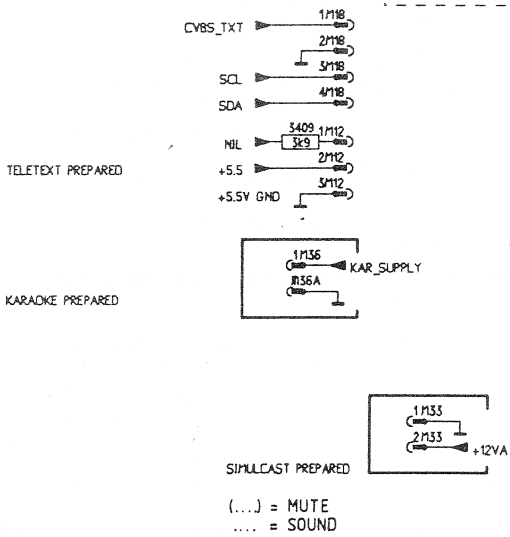
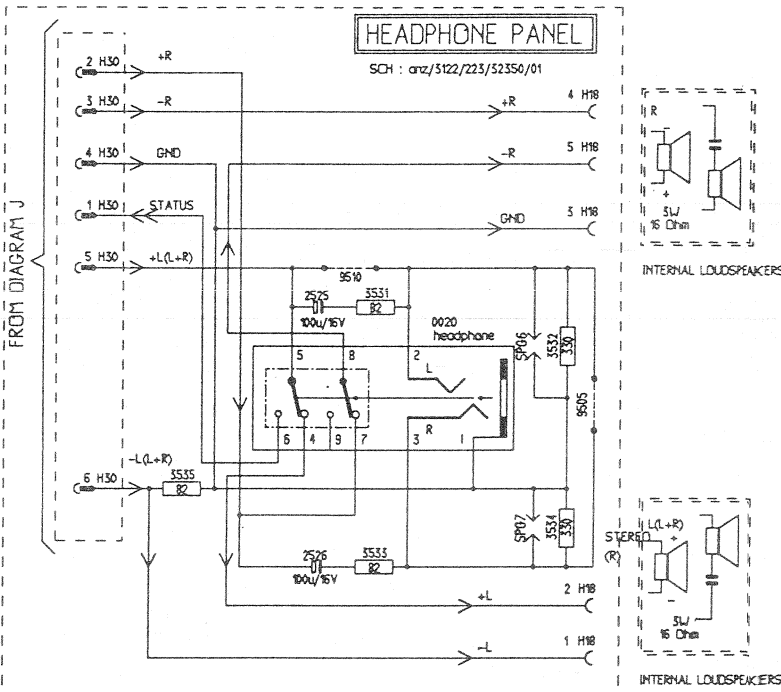
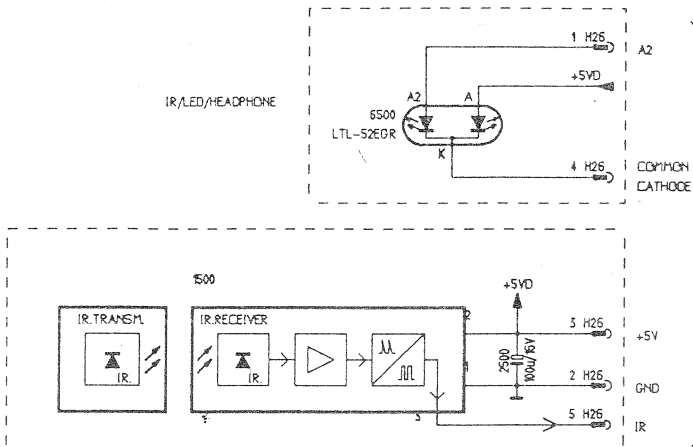
Volume control / Top control / LED + IR / Headphone



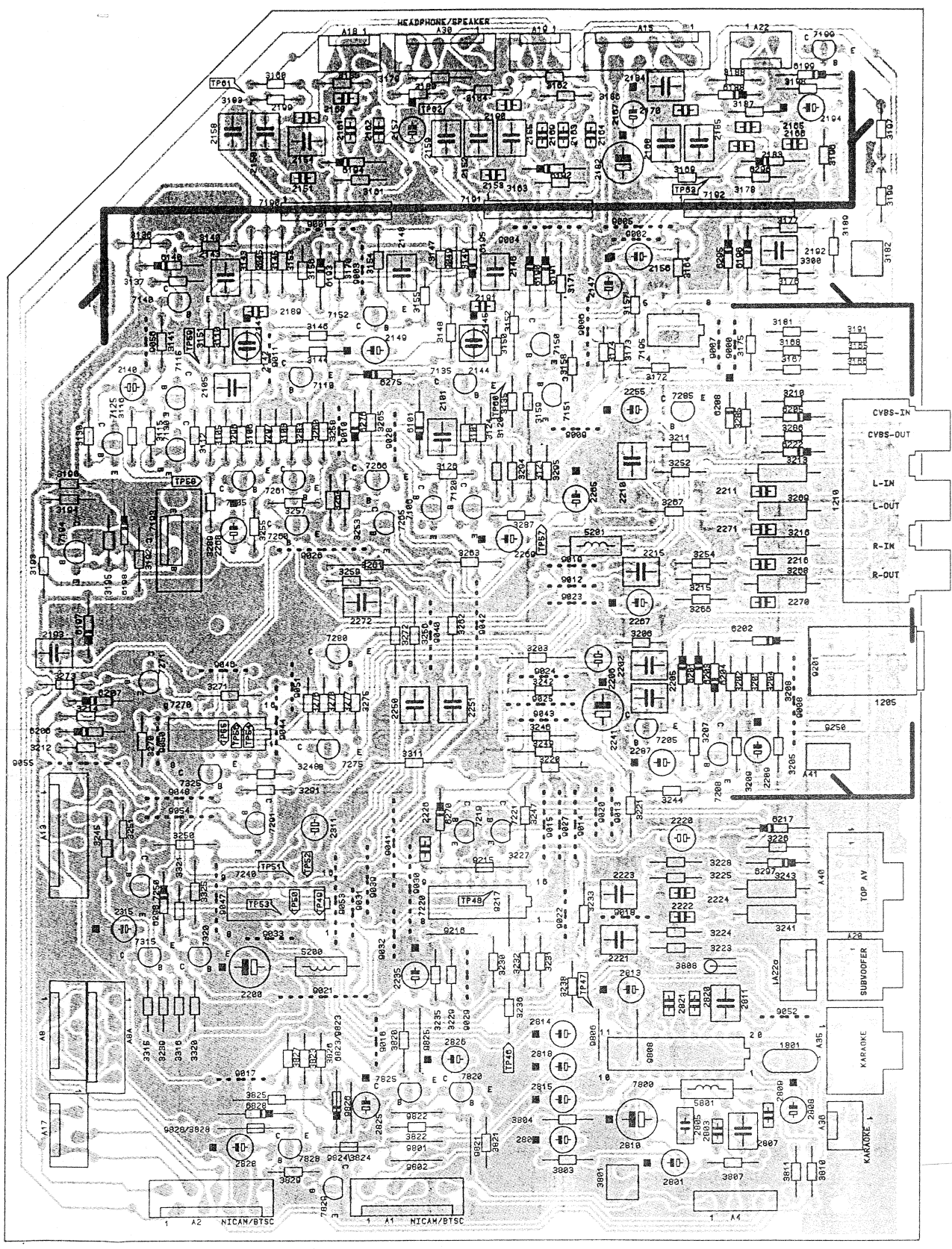
FEATURES



	MONO	STEREO
2125	-	100u/16V
2126	-	100u/16V
5151	-	82
5152	56	530
5153	-	82
5154	-	530
5155	82	-
9105	J/P	-
9110	J/P	-
X13	-	L/TB
X14	L/TB	L/TB

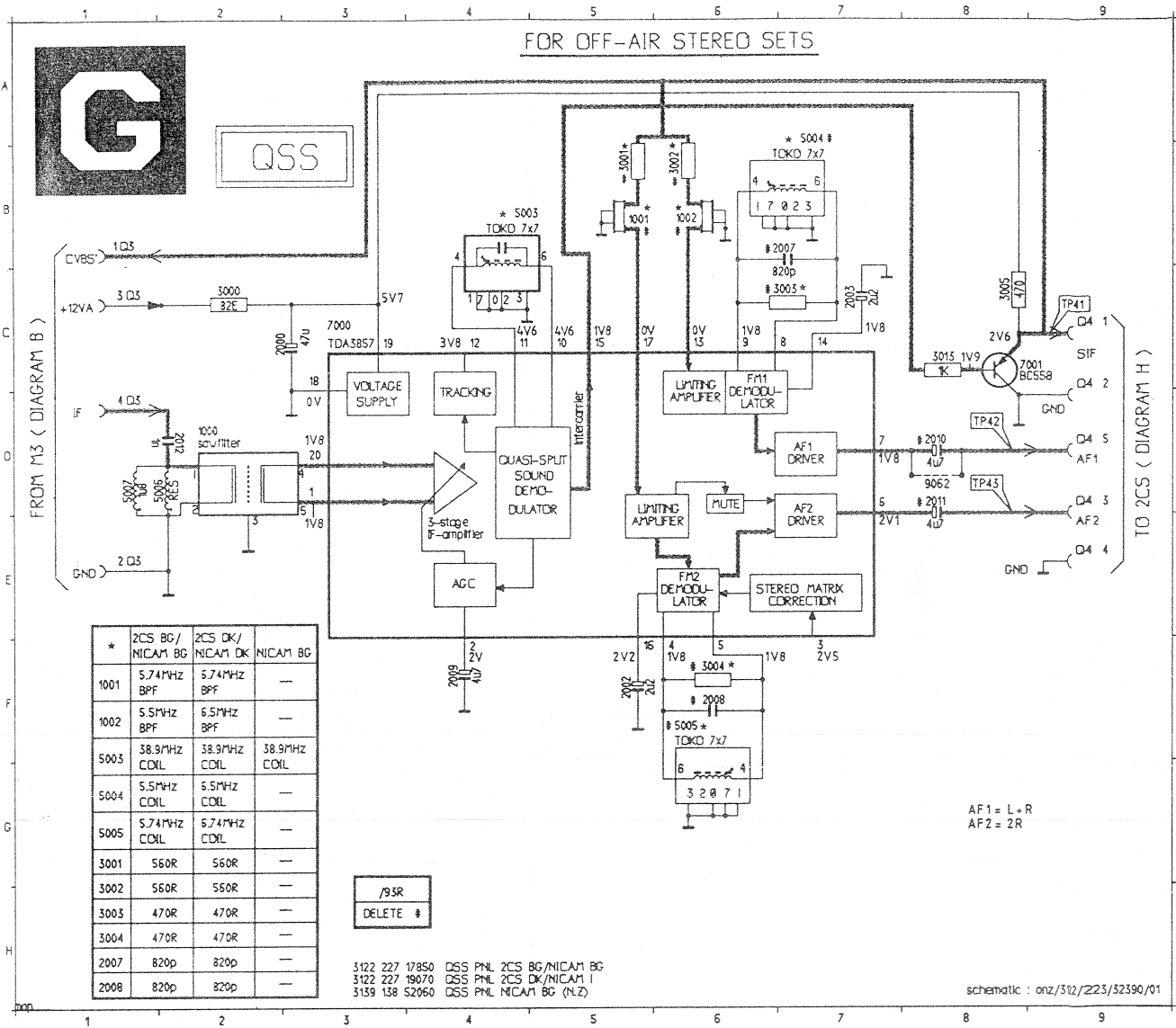


2CS and I/O + Interfacing

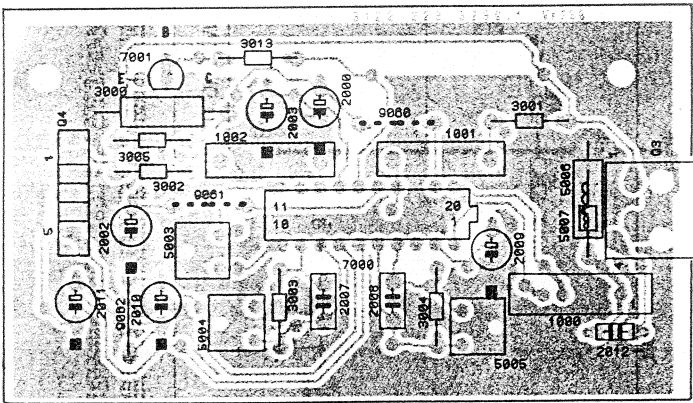


10
9
8
7
6
5
4
3
2
1

		H		G		F		E		D		C		B		A											
1205	A5	2147	C8	2159	E9	2182	C9	2202	C5	2224	C3	2271	B6	2810	C1	9024	D5	9041	E4	9053	F3	9808	C2	A8A	H2	A40	B
1210	A6	2148	E8	2160	C9	2183	B9	2205	C5	2226	E4	2272	E6	2811	C2	9025	D5	9042	E5	9054	G4	9821	E1	A13	H4	A41	B
1301	B2	2149	E8	2161	F9	2184	C10	2206	D5	2235	E3	2287	C4	2813	C3	9026	F6	9043	D5	9055	H4	9822	E2	A15	C10		
1305	F7	2150	F9	2162	E9	2185	C9	2209	B4	2241	D5	2311	F4	2814	D2	9027	D4	9044	F5	9056	B8	9823	F2	A17	H1		
1310	G7	2151	F9	2163	D9	2186	F8	2210	C7	2250	E5	2315	G3	2815	D2	9028	F7	9045	F8	9057	B5	9824	F7	A18	F10		
1314	F8	2152	E9	2164	D9	2187	D10	2211	B7	2251	E5	2301	C1	2816	D2	9029	E3	9046	G5	9213	D4	9825	E2	A19	D10		
1314	F8	2153	D9	2165	B9	2191	D8	2215	C6	2255	C7	2802	D1	2820	C2	9030	E3	9047	G3	9216	E3	9826	F2	A20	A3		
1314	F8	2154	F9	2166	B9	2192	B8	2216	B6	2265	D6	2803	C1	2821	C2	9031	F3	9048	G4	9217	D3	9828	F1	A22	B10		
1314	G8	2155	D9	2167	C10	2193	H5	2220	C4	2267	C6	2805	C1	2825	E2	9032	E3	9049	E8	9250	B5	A1	E1	A22a	B3		
1314	G8	2156	C8	2168	F10	2194	B10	2221	C3	2268	F6	2807	B1	2826	E2	9033	F3	9050	G5	9801	E1	A2	G1	A30	E10		
1314	G8	2157	D9	2169	D9	2195	F10	2222	C3	2269	D6	2808	B2	2827	F1	9034	E3	9051	E5	9802	E1	A4	B2	A31	A2		
1314	D8	2158	F9	2170	C10	2200	F3	2223	C3	2270	B6	2809	B2	3101	E7	9040	E5	9052	B2	9806	D2	A8	H2	A36	B1		



QSS panel



- 1000 A1
- 1001 B2
- 1002 B3
- 2000 C3
- 2002 B4
- 2003 C3
- 2007 A3
- 2008 A2
- 2009 B2
- 2010 A4
- 2011 A5
- 2012 A1
- 3000 C4
- 3001 C2
- 3002 B4
- 3003 A3
- 3004 A2
- 3005 B4
- 5003 B4
- 5004 A4
- 5005 A2
- 5006 B1
- 5007 B1
- 7000 A3
- 7001 C4
- 9060 C2
- 9061 B4
- 9062 A4
- Q3 B1
- Q4 B5

Q3		M3	Q4		A4
1	→ CVBS'	1	1	→ SIF	1
2	→ GND	2	2	→ GND	2
3	→ +12VA	3	3	→ AF2	3
4	→ IF	4	4	→ GND	4
			5	→ AF1	5

Description QSS, 2CS, I/O+interfacing and amplification

QSS (Diagram G)

- From the IF signal, coming from the tuner, the following signals are extracted on the QSS panel:
 - * **AF1**: L+R demodulated low frequency audio signal for 2CS stereo sound dematrixing in IC7800.
 - * **AF2**: 2R demodulated low frequency audio signal for 2CS stereo sound dematrixing in IC7800.
 - * **CVBS' = SIF**: Audio info on sound-carrier for NICAM or BTSC sound decoding (so not demodulated yet). In this CVBS'/SIF the following audio signals can be present: 4.5 MHz for M reception, 5.5 and 5.74 MHz for PAL BG 2CS stereo, 6.5 and 6.74 MHz for PAL DK 2CS stereo, 6.0 MHz for PAL I mono, 5.85 MHz for NICAM BG and 6.25 MHz NICAM I.
- For **2CS BG stereo** sets filters 1002/1001 and coils 5004/5005 are tuned at resp. 5.5 and 5.74 MHz and 5003 at 38.9 MHz.
- For **2CS DK stereo** sets filters 1002/1001 and coils 5004/5005 are tuned at resp. 6.5 and 6.74 MHz and 5003 at 38.9 MHz.
- For **NICAM BG or NICAM I** only sets, only coil 5003 is present and tuned at 38.9 MHz.
- If QSS is present CVBS from IF-detector IC7225-6A is only used for video processing and not for audio processing any more. Also if QSS is present C2119 (diagram D) is not present. The sound path is as follows (see diagram B, D and G):
 - * In case the **multisound panel is present** CVBS from the IF-detector IC7225-6A is not used for multisound as jumpers 9120 and 9121 on multisound panel are not present. CVBS' from QSS panel is used for multisound panel via a wire from 1M50 to 1C88 from main carrier to multisound panel (jumper 9153 on multisound panel is present). After passing through the correct sound carrier on the multisound panel, the undemodulated audio signal is fed (via SOUND_IF) to IC7225-6F for FM mono sound demodulation.
 - * In case the **multisound panel is not present** CVBS' from QSS panel is fed to IC7225-6F via a wire from 1M50 to 1M50A and filters 1105 and/or 1106 (CVBS is not used as C2119 is not present if QSS is present).

2CS (Diagram H)

- 4 main functions of IC7800 (TDA9840):**
 - * Dematrixing AF1 (L+R) and AF2 (2R) to L and R audio signals. R3801 is used to align the stereo separation.
 - * Detect MONO, STEREO or DUAL available; send this info to μC via I²C.
 - * Source select between "internal" L & R (extracted from pin 7 and 8 IC7800) or L & R from input pins 9 & 10 IC7800. Control from μC via I²C.
 - * Source select DUAL I or DUAL II via I²C from μC .
- If **no NICAM or BTSC** panel is present, then jumpers 9801 and 9802 are present passing through AUDIO_OUT from FM-mono detector IC7225-6F to pin 9 and 10 IC7800.
- If **NICAM or BTSC** panel is present, then L-OUT and R-OUT (low frequency audio signals from NICAM or BTSC) is fed to pin 9 and 10 IC7800.
- Jumper 9821** is present in case of BTSC reception via the QSS panel; by then AF1 signal is used for BTSC decoding and not the AUDIO_OUT signal from IC7225-6F.
- The **amplitude** of the AUDIO_OUT signal from IC7225-6F is adapted to the same level as L and R internally in IC7800 by TS7820 and TS7825.
- If multisound panel is present **TS7828 and TS7829** is present. TS7829 will mute FM-MONO signal while multisound panel is searching for the correct sound system (while searching SOUND_ID and so MUTE is "low"; < 0.8V).

I/O + INTERFACING (Diagram I)

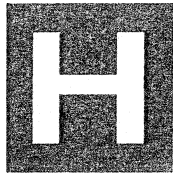
- IC7220** switches between REAR AV-IN (from SVHS or SCART) **OR** FRONT AV-IN.
- The FRONT-ID status signal switches IC7220 and is "high" in case CVBS cinch in FRONT-AV panel is inserted (mechanical switch). So Front AV has priority to Rear AV if both are present.
- IC7240** switches between AV-INT (aerial) **OR** AV-EXT

(from REAR or FRONT via IC7220). The A/V status signal switches IC7240 and is "high" for INT and "low" for EXT.

- IC7270** switches between:
 - * Stereo **OR** mono sound (input pin 12-13). If status signal STEREO/MONO is "low" for stereo and "high" for MONO (L-OUT and R-OUT are shortcircuited).
 - * CVBS-INT/EXT from IC7240 **OR** CVBS from SVHS to CVBS-monitor out (input pins 12-13 IC7270).
 - * A/V' **OR** A/V+C (A/V'+C is A/V' status signal with superimposed on it the chrominance part of the SVHS) (input pins 1-2 IC7270).
- Switching for output pins 4 and 15 (resp. CVBS-monitor out and A/V' with or without C-SVHS) are driven by pin 9 and 10 IC7270 in parallel via the status signal:
 - * **NOT-SVHS** is "open" (or high ohmic) for SVHS connector inserted and "high" for SVHS connector not inserted (mechanical switch).
 - * **A/V(8V)** is "high" for INT and "low" for EXT (so the same polarity as the status signal A/V but then switching with 0V and 8V).
 - * **F-ID** is "high" if CVBS front plug is inserted (so FRONT AV) and "low" if not inserted (so REAR AV). The F-ID status signal will only be used if Front AV panel is present.
- If **SVHS plug is not inserted**, then NOT-SVHS is "high". Both switches are in the lower position so CVBS-INT and A/V' without chroma is selected at pin 15-4 IC7270 independent of F-ID and A/V(8V).
- If **SVHS plug is inserted**, then NOT-SVHS is "open".
 - * Only if F-ID and A/V(8V) are both "low" (so REAR AV and EXT AV selected) pin 9 and 10 IC7270 will be "low". Both switches are in the upper "SVHS-position" (CVBS-SVHS to monitor out and A/V'+C to IC7225-6B). So SVHS has priority to REAR AV in cinches if both are inserted.
 - * If one or both F-ID and A/V(8V) are "high" pin 9 and 10 IC7270 will be "high". Both switches are in the lower position (CVBS-INT/EXT from IC7240 to CVBS monitor out and A/V'+C).

AMPLIFICATION (Diagram J)

- SPATIAL**; circuitry around TS7105, 7120, 7115 and 7130 is spatial circuitry.
- Spatial feature is activated if SPATIAL status signal is "high".
- HIGH PASS FILTER**; This filter passes through the mid and high frequency ranges for the squeezer-amplifiers IC7190 and IC7191. For R-channel this filter is formed by C2141 and R3143 and R3153. For L-channel this filter is formed by C2144 and R3147 and R3154. If a headphone is connected the filters are deactivated to give full frequency range to IC7190 and 7191 for headphone (see STATUS).
- The **LOW PASS FILTER** for the subwoofer only passes through the low tones to IC7192. Low pass filter by C2167 and R3151, R3152 (R3157 for BASSBOOST "on", so "low") and by C2184 and R3169.
- IC7195** is used to determine the highest volume control level of VOLUME-0 and VOLUME-1. This highest control level is used for controlling the subwoofer amplifier at pin 5 IC7192.
- The **BIAS** voltage makes a stable collector current through TS7266 and TS7261 (diagram I) and a stable supply voltage for the spatial circuitry (diagram J) independent of a ripple on +13V.
- The **STATUS** status signal (DC at the positive side of C2157) is "high" if headphone plug is inserted and "open" if no headphone plug is inserted.
 - * If **no headphone**, STATUS is "open" so IC7195 can determine correct volume control level for the subwoofer amplifier.
 - * If **headphone is inserted**, STATUS is "high" and so output of IC7195 is zero. The subwoofer is muted. Also TS7151 will not conduct any more, so C2149 will not block the low frequencies (low pass filtered by R3155 and C2148) of L+R at the basis of TS7152 any more. The L+R low frequencies will be added to the mid and high frequencies from the L & R channels and so make a full range sound to the headphone.
- If **HEADPHONE** is inserted the speaker sound is muted on the headphone panel.



2CS

- NOT PRESENT FOR MULTISOUND
- ▲ PRESENT FOR MULTISOUND

- STEREO/MONO SAP-ON
- SOUND ID/STEREO AVAIL
- SAP AVAIL/NICAM AVAIL
- SDA
- SCL
- +80

FROM/TO NICAM/BTSC PANEL (DIAGRAM K / L)

ONLY FOR BTSC & QSS

ONLY FOR MULTISOUND

FROM QSS PANEL (DIAGRAM G)

1 A4 → SIF

2 A4 → AF1 T801

3 A4 → AF2 T803

4 A4 → T804

5 A4 → T801

6 A4 → T801

7 A4 → T801

8 A4 → T801

9 A4 → T801

10 A4 → T801

11 A4 → T801

12 A4 → T801

13 A4 → T801

14 A4 → T801

15 A4 → T801

16 A4 → T801

17 A4 → T801

18 A4 → T801

19 A4 → T801

20 A4 → T801

21 A4 → T801

22 A4 → T801

23 A4 → T801

24 A4 → T801

25 A4 → T801

26 A4 → T801

27 A4 → T801

28 A4 → T801

29 A4 → T801

30 A4 → T801

31 A4 → T801

32 A4 → T801

33 A4 → T801

34 A4 → T801

35 A4 → T801

36 A4 → T801

37 A4 → T801

38 A4 → T801

39 A4 → T801

40 A4 → T801

41 A4 → T801

42 A4 → T801

43 A4 → T801

44 A4 → T801

45 A4 → T801

46 A4 → T801

47 A4 → T801

48 A4 → T801

49 A4 → T801

50 A4 → T801

51 A4 → T801

52 A4 → T801

53 A4 → T801

54 A4 → T801

55 A4 → T801

56 A4 → T801

57 A4 → T801

58 A4 → T801

59 A4 → T801

60 A4 → T801

61 A4 → T801

62 A4 → T801

63 A4 → T801

64 A4 → T801

65 A4 → T801

66 A4 → T801

67 A4 → T801

68 A4 → T801

69 A4 → T801

70 A4 → T801

71 A4 → T801

72 A4 → T801

73 A4 → T801

74 A4 → T801

75 A4 → T801

76 A4 → T801

77 A4 → T801

78 A4 → T801

79 A4 → T801

80 A4 → T801

81 A4 → T801

82 A4 → T801

83 A4 → T801

84 A4 → T801

85 A4 → T801

86 A4 → T801

87 A4 → T801

88 A4 → T801

89 A4 → T801

90 A4 → T801

91 A4 → T801

92 A4 → T801

93 A4 → T801

94 A4 → T801

95 A4 → T801

96 A4 → T801

97 A4 → T801

98 A4 → T801

99 A4 → T801

100 A4 → T801

101 A4 → T801

102 A4 → T801

103 A4 → T801

104 A4 → T801

105 A4 → T801

106 A4 → T801

107 A4 → T801

108 A4 → T801

109 A4 → T801

110 A4 → T801

111 A4 → T801

112 A4 → T801

113 A4 → T801

114 A4 → T801

115 A4 → T801

116 A4 → T801

117 A4 → T801

118 A4 → T801

119 A4 → T801

120 A4 → T801

121 A4 → T801

122 A4 → T801

123 A4 → T801

124 A4 → T801

125 A4 → T801

126 A4 → T801

127 A4 → T801

128 A4 → T801

129 A4 → T801

130 A4 → T801

131 A4 → T801

132 A4 → T801

133 A4 → T801

134 A4 → T801

135 A4 → T801

136 A4 → T801

137 A4 → T801

138 A4 → T801

139 A4 → T801

140 A4 → T801

141 A4 → T801

142 A4 → T801

143 A4 → T801

144 A4 → T801

145 A4 → T801

146 A4 → T801

147 A4 → T801

148 A4 → T801

149 A4 → T801

150 A4 → T801

151 A4 → T801

152 A4 → T801

153 A4 → T801

154 A4 → T801

155 A4 → T801

156 A4 → T801

157 A4 → T801

158 A4 → T801

159 A4 → T801

160 A4 → T801

161 A4 → T801

162 A4 → T801

163 A4 → T801

164 A4 → T801

165 A4 → T801

166 A4 → T801

167 A4 → T801

168 A4 → T801

169 A4 → T801

170 A4 → T801

171 A4 → T801

172 A4 → T801

173 A4 → T801

174 A4 → T801

175 A4 → T801

176 A4 → T801

177 A4 → T801

178 A4 → T801

179 A4 → T801

180 A4 → T801

181 A4 → T801

182 A4 → T801

183 A4 → T801

184 A4 → T801

185 A4 → T801

186 A4 → T801

187 A4 → T801

188 A4 → T801

189 A4 → T801

190 A4 → T801

191 A4 → T801

192 A4 → T801

193 A4 → T801

194 A4 → T801

195 A4 → T801

196 A4 → T801

197 A4 → T801

198 A4 → T801

199 A4 → T801

200 A4 → T801

201 A4 → T801

202 A4 → T801

203 A4 → T801

204 A4 → T801

205 A4 → T801

206 A4 → T801

207 A4 → T801

208 A4 → T801

209 A4 → T801

210 A4 → T801

211 A4 → T801

212 A4 → T801

213 A4 → T801

214 A4 → T801

215 A4 → T801

216 A4 → T801

217 A4 → T801

218 A4 → T801

219 A4 → T801

220 A4 → T801

221 A4 → T801

222 A4 → T801

223 A4 → T801

224 A4 → T801

225 A4 → T801

226 A4 → T801

227 A4 → T801

228 A4 → T801

229 A4 → T801

230 A4 → T801

231 A4 → T801

232 A4 → T801

233 A4 → T801

234 A4 → T801

235 A4 → T801

236 A4 → T801

237 A4 → T801

238 A4 → T801

239 A4 → T801

240 A4 → T801

241 A4 → T801

242 A4 → T801

243 A4 → T801

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247 A4 → T801

248 A4 → T801

249 A4 → T801

250 A4 → T801

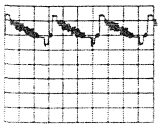
251 A4 → T801

252 A4 → T801

253 A4 → T801

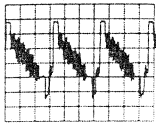
254 A4 → T801

TP48



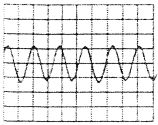
0,5V/div AC
0,5ms div

TP55



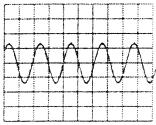
0,2V/div AC
20ms div

TP49



0,5V/div AC
0,5ms div

TP56



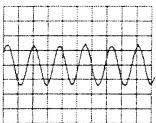
0,5V/div AC
0,5ms div

TP50



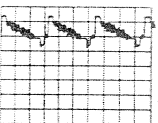
0,5V/div AC
0,5ms div

TP57



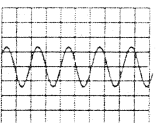
0,5V/div AC
0,2ms div

TP51



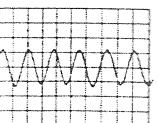
0,5V/div AC
0,5ms div

TP58



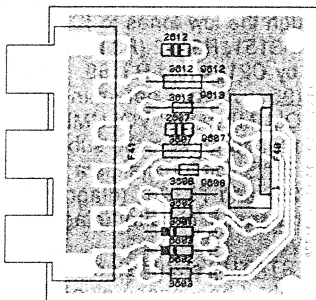
0,5V/div AC
0,5ms div

TP52

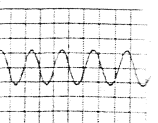


0,5V/div AC
0,2ms div

Front AV-IN panel



TP53

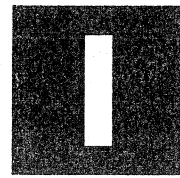


0,5V/div AC
0,5ms div

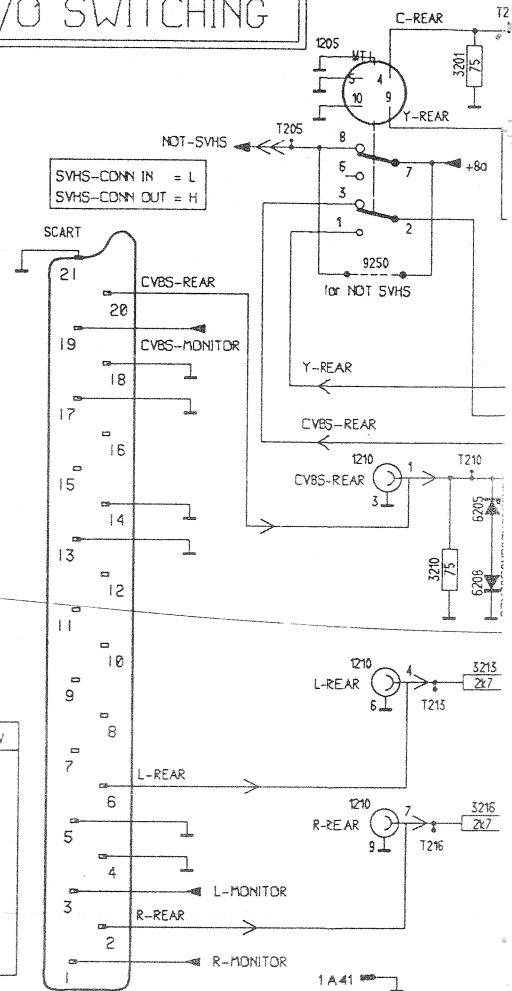
TP54 = DC 4,5V

F40		A40
1	→ L - FRONT	6
2	→ AUDIO GND	5
3	→ R - FRONT	4
4	→ FRONT - ID	3
5	→ CVBS - FRONT	2
6	→ CVBS - GND	1

CL 46532005/11N
270194

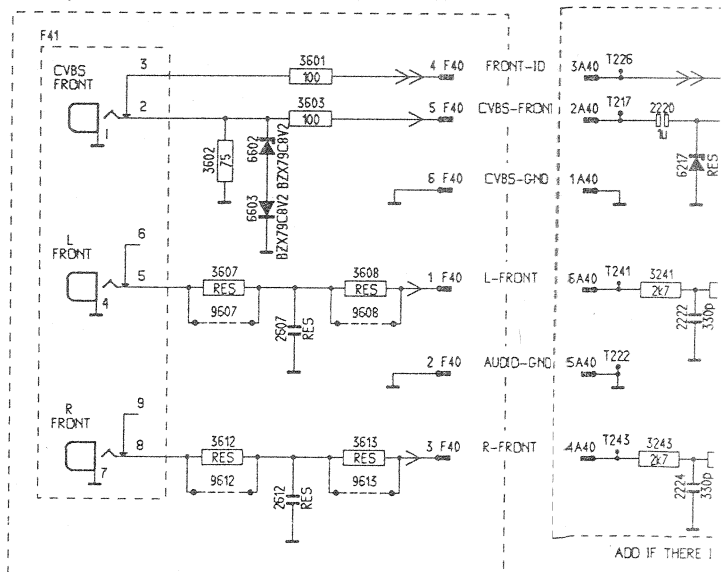


I/O SWITCHING

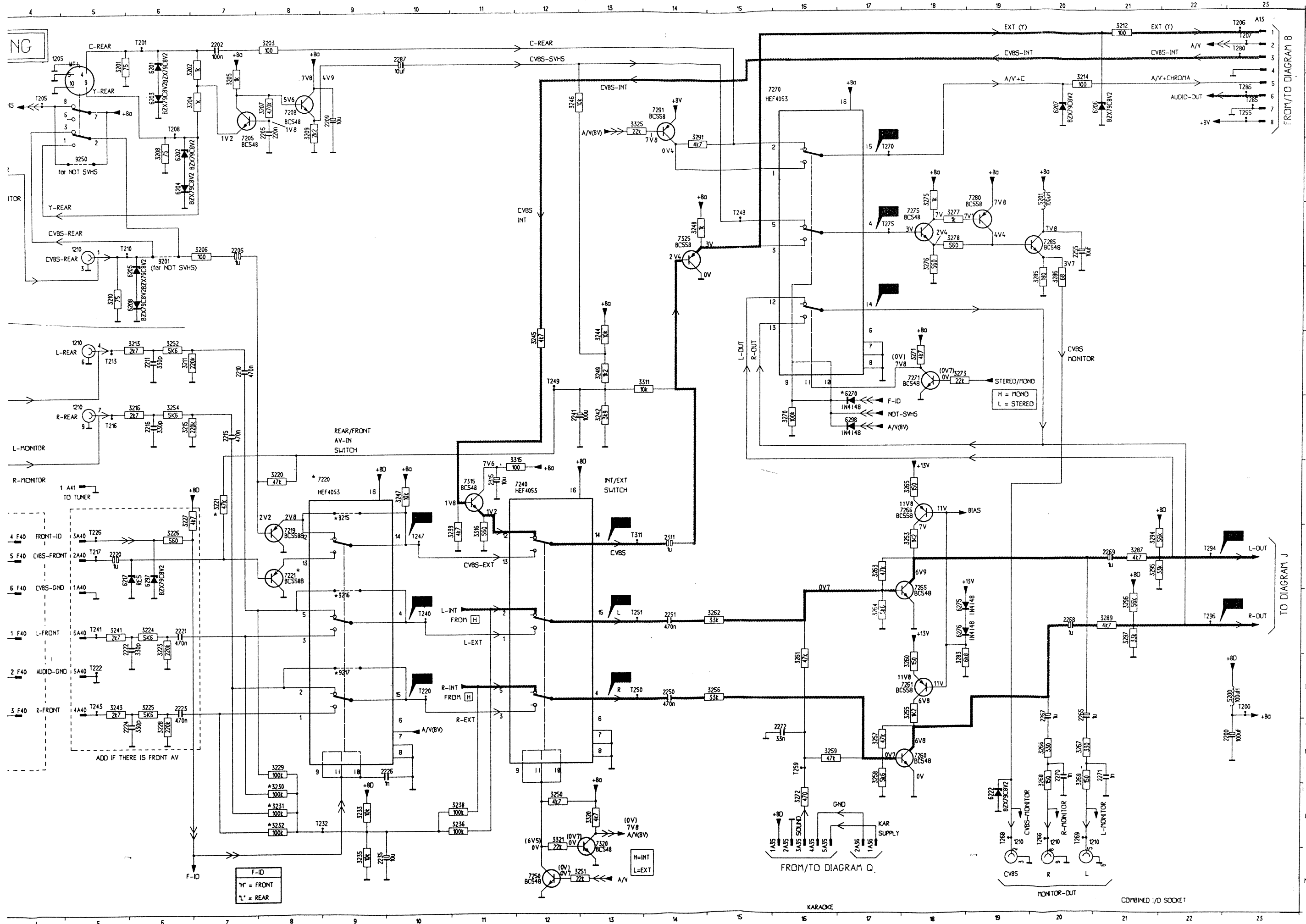


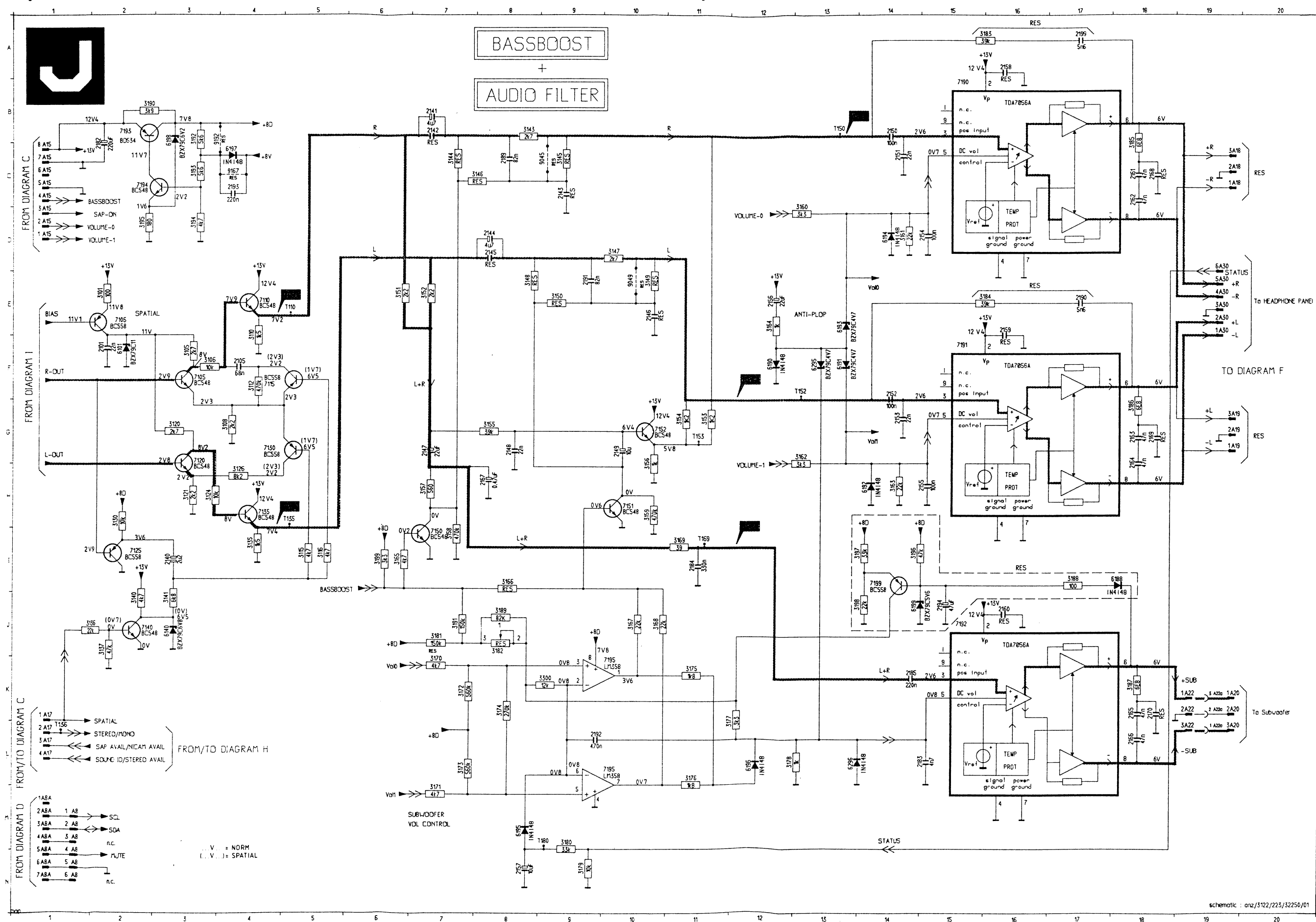
With Front A/V	W/o Front A/V
3221	—
3230	—
3232	—
6270	—
7220	—
—	9215
—	9216
—	9217

FRONT-A/V PANEL



...V... = NORM
(...V...) = SPATIAL





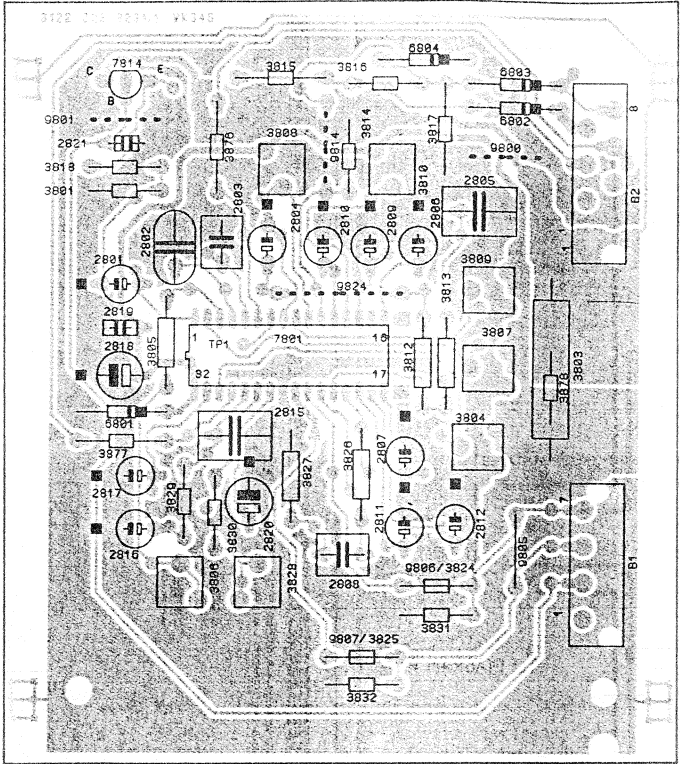
	2101	F 2	7192	J 5
	2140	F 4	7193	B 2
	2141	B 7	7194	C 2
A	2142	C 9	7195	K 6
	2144	D 8	7196	L 4
	2145	D 8	7197	M 4
	2146	E 10	7198	N 4
	2147	G 7	7199	O 4
	2148	G 8	7200	P 4
	2149	G 8	7201	Q 4
	2150	B14	7202	R 4
	2151	C14	7203	S 4
	2152	F14	7204	T 4
B	2153	G14	7205	U 4
	2154	H14	7206	V 4
	2155	H15	7207	W 4
	2156	E12	7208	X 4
	2157	N 8	7209	Y 4
	2158	A16	7210	Z 4
	2159	B16	7211	A 5
	2160	J16	7212	B 5
	2161	C18	7213	C 5
	2162	C18	7214	D 5
	2163	C18	7215	E 5
C	2164	C18	7216	F 5
	2165	K18	7217	G 5
	2166	L18	7218	H 5
	2167	L18	7219	I 5
	2168	C18	7220	J 5
	2169	C18	7221	K 5
	2170	K18	7222	L 5
	2171	K18	7223	M 5
	2172	L18	7224	N 5
	2173	L18	7225	O 5
	2174	L18	7226	P 5
	2175	L18	7227	Q 5
	2176	L18	7228	R 5
	2177	L18	7229	S 5
	2178	L18	7230	T 5
	2179	L18	7231	U 5
	2180	L18	7232	V 5
D	2181	L18	7233	W 5
	2182	L18	7234	X 5
	2183	L18	7235	Y 5
	2184	L18	7236	Z 5
	2185	L18	7237	A 6
	2186	L18	7238	B 6
	2187	L18	7239	C 6
	2188	L18	7240	D 6
	2189	L18	7241	E 6
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	2191	L18	7243	G 6
	2192	L18	7244	H 6
	2193	L18	7245	I 6
	2194	L18	7246	J 6
	2195	L18	7247	K 6
	2196	L18	7248	L 6
	2197	L18	7249	M 6
	2198	L18	7250	N 6
	2199	L18	7251	O 6
	2200	L18	7252	P 6
	2201	L18	7253	Q 6
	2202	L18	7254	R 6
	2203	L18	7255	S 6
	2204	L18	7256	T 6
	2205	L18	7257	U 6
	2206	L18	7258	V 6
	2207	L18	7259	W 6
	2208	L18	7260	X 6
	2209	L18	7261	Y 6
	2210	L18	7262	Z 6
	2211	L18	7263	A 7
	2212	L18	7264	B 7
	2213	L18	7265	C 7
	2214	L18	7266	D 7
	2215	L18	7267	E 7
	2216	L18	7268	F 7
	2217	L18	7269	G 7
	2218	L18	7270	H 7
	2219	L18	7271	I 7
	2220	L18	7272	J 7
	2221	L18	7273	K 7
	2222	L18	7274	L 7
	2223	L18	7275	M 7
	2224	L18	7276	N 7
	2225	L18	7277	O 7
	2226	L18	7278	P 7
	2227	L18	7279	Q 7
	2228	L18	7280	R 7
	2229	L18	7281	S 7
	2230	L18	7282	T 7
	2231	L18	7283	U 7
	2232	L18	7284	V 7
	2233	L18	7285	W 7
	2234	L18	7286	X 7
	2235	L18	7287	Y 7
	2236	L18	7288	Z 7
	2237	L18	7289	A 8
	2238	L18	7290	B 8
	2239	L18	7291	C 8
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	2241	L18	7293	E 8
	2242	L18	7294	F 8
	2243	L18	7295	G 8
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	2245	L18	7297	I 8
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	2247	L18	7299	K 8
	2248	L18	7300	L 8
	2249	L18	7301	M 8
	2250	L18	7302	N 8
	2251	L18	7303	O 8
	2252	L18	7304	P 8
	2253	L18	7305	Q 8
	2254	L18	7306	R 8
	2255	L18	7307	S 8
	2256	L18	7308	T 8
	2257	L18	7309	U 8
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	2259	L18	7311	W 8
	2260	L18	7312	X 8
	2261	L18	7313	Y 8
	2262	L18	7314	Z 8
	2263	L18	7315	A 9
	2264	L18	7316	B 9
	2265	L18	7317	C 9
	2266	L18	7318	D 9
	2267	L18	7319	E 9
	2268	L18	7320	F 9
	2269	L18	7321	G 9
	2270	L18	7322	H 9
	2271	L18	7323	I 9
	2272	L18	7324	J 9
	2273	L18	7325	K 9
	2274	L18	7326	L 9
	2275	L18	7327	M 9
	2276	L18	7328	N 9
	2277	L18	7329	O 9
	2278	L18	7330	P 9
	2279	L18	7331	Q 9
	2280	L18	7332	R 9
	2281	L18	7333	S 9
	2282	L18	7334	T 9
	2283	L18	7335	U 9
	2284	L18	7336	V 9
	2285	L18	7337	W 9
	2286	L18	7338	X 9
	2287	L18	7339	Y 9
	2288	L18	7340	Z 9
	2289	L18	7341	A 10
	2290	L18	7342	B 10
	2291	L18	7343	C 10
	2292	L18	7344	D 10
	2293	L18	7345	E 10
	2294	L18	7346	F 10
	2295	L18	7347	G 10
	2296	L18	7348	H 10
	2297	L18	7349	I 10
	2298	L18	7350	J 10
	2299	L18	7351	K 10
	2300	L18	7352	L 10
	2301	L18	7353	M 10
	2302	L18	7354	N 10
	2303	L18	7355	O 10
	2304	L18	7356	P 10
	2305	L18	7357	Q 10
	2306	L18	7358	R 10
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	2310	L18	7362	V 10
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	2312	L18	7364	X 10
	2313	L18	7365	Y 10
	2314	L18	7366	Z 10
	2315	L18	7367	A 11
	2316	L18	7368	B 11
	2317	L18	7369	C 11
	2318	L18	7370	D 11
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	2340	L18	7392	Z 11
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	2344	L18	7396	D 12
	2345	L18	7397	E 12
	2346	L18	7398	F 12
	2347	L18	7399	G 12
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	2349	L18	7401	I 12
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	2384	L18	7436	R 13
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	2386	L18	7438	T 13
	2387	L18	7439	U 13
	2388	L18	7440	V 13
	2389	L18	7441	W 13
	2390	L18	7442	X 13
	2391	L18	7443	Y 13
	2392	L18	7444	Z 13
	2393	L18	7445	A 14
	2394	L18	7446	B 14
	2395	L18	7447	C 14
	2396	L18	7448	D 14
	2397	L18	7449	E 14
	2398	L18	7450	F 14
	2399	L18	7451	G 14
	2400	L18	7452	H 14
	2401	L18	7453	I 14
	2402	L18	7454	J 14
	2403	L18	7455	K 14
	2404	L18	7456	L 14
	2405	L18	7457	M 14
	2406	L18	7458	N 14
	2407	L18	7459	O 14
	2408	L18	7460	P 14
	2409	L18	7461	Q 14
	2410	L18	7462	R 14
	2411	L18	7463	S 14
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	2416	L18	7468	X 14
	2417	L18	7469	Y 14
	2418	L18	7470	Z 14
	2419	L18	7471	A 15
	2420	L18	7472	B 15
	2421	L18	7473	C 15
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	2423	L18	7475	E 15
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	2427	L18	7479	I 15
	2428	L18	7480	J 15
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	2432	L18	7484	N 15
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	2436	L18	7488	R 15
	2437	L18	7489	S 15
	2438	L18	7490	T 15
	2439	L18	7491	U 15
	2440	L18	7492	V 15
	2441	L18	7493	W 15
	2442	L18	7494	X 15
	2443	L18	7495	Y 15
	2444			

BTSC panel

B1			A1
1	NC		7
2	IF - GND		6
3	FM - MONO		5
4	FM - GND		4
5	NICAM / BTSC - L - OUT		3
6	GND		2
7	NICAM / BTSC - R - OUT		1

B2			A2
1	+8V		8
2	GND		7
3	NC		6
4	NC		5
5	SAP - AVAIL		4
6	STEREO - AVAIL		3
7	SAP - ON		2
8	STEREO / MONO		1

CL 46532008/11S
270194



D C B A

5

4

3

2

1

2801 D3
2802 D4
2803 D4
2804 C4
2805 B4
2806 B4
2807 B2
2808 C2
2809 C4
2810 C4
2811 B2
2812 B2
2815 D2
2816 D2
2817 D2
2818 D3
2819 D3
2820 D2
2821 D4
3601 D4
3603 A3
3604 B2
3605 D3
3606 D1
3607 B3
3608 C4
3609 B3
3610 C4
3612 B3
3613 B3
3614 C4
3615 C5
3616 C5
3617 B5
3618 D4
3624 B1
3625 C1
3626 C2
3627 C2
3628 C1
3629 D2
3630 D2
3631 B1
3632 C1
3676 D4
3677 D2
3678 A3
6801 D3
6802 B5
6803 B5
6804 B5
7801 C3
7814 D5
7814 D5
9800 B4
9801 D5
9805 B2
9806 B1

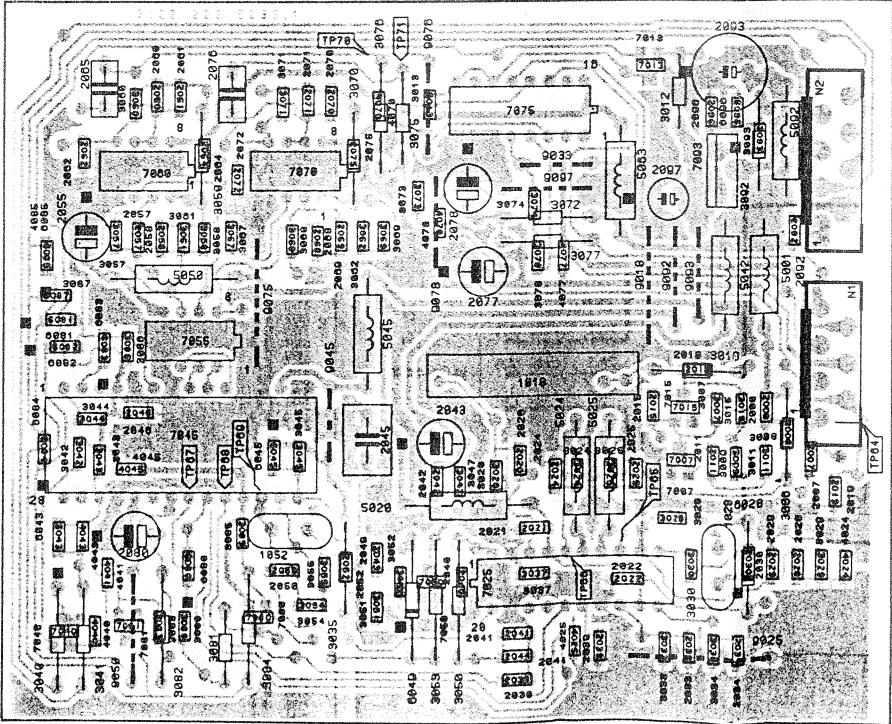
9807 C1
9814 C4
9824 C3
B1 A2
B2 A4

NICAM panel

N1			A1
1	SIF		7
2	IF - GND		6
3	FM - MONO		5
4	FM - GND (AGND3)		4
5	NICAM / BTSC - L - OUT		3
6	GND		2
7	NICAM / BTSC - R - OUT		1

N2			A2
1	+8V		8
2	GND		7
3	SCL		6
4	SDA		5
5	NICAM - AVAIL		4
6	NC		3
7	NC		2
8	NC		1

CL 46532008/11T
270194



6 5 4 3 2 1

E

D

C

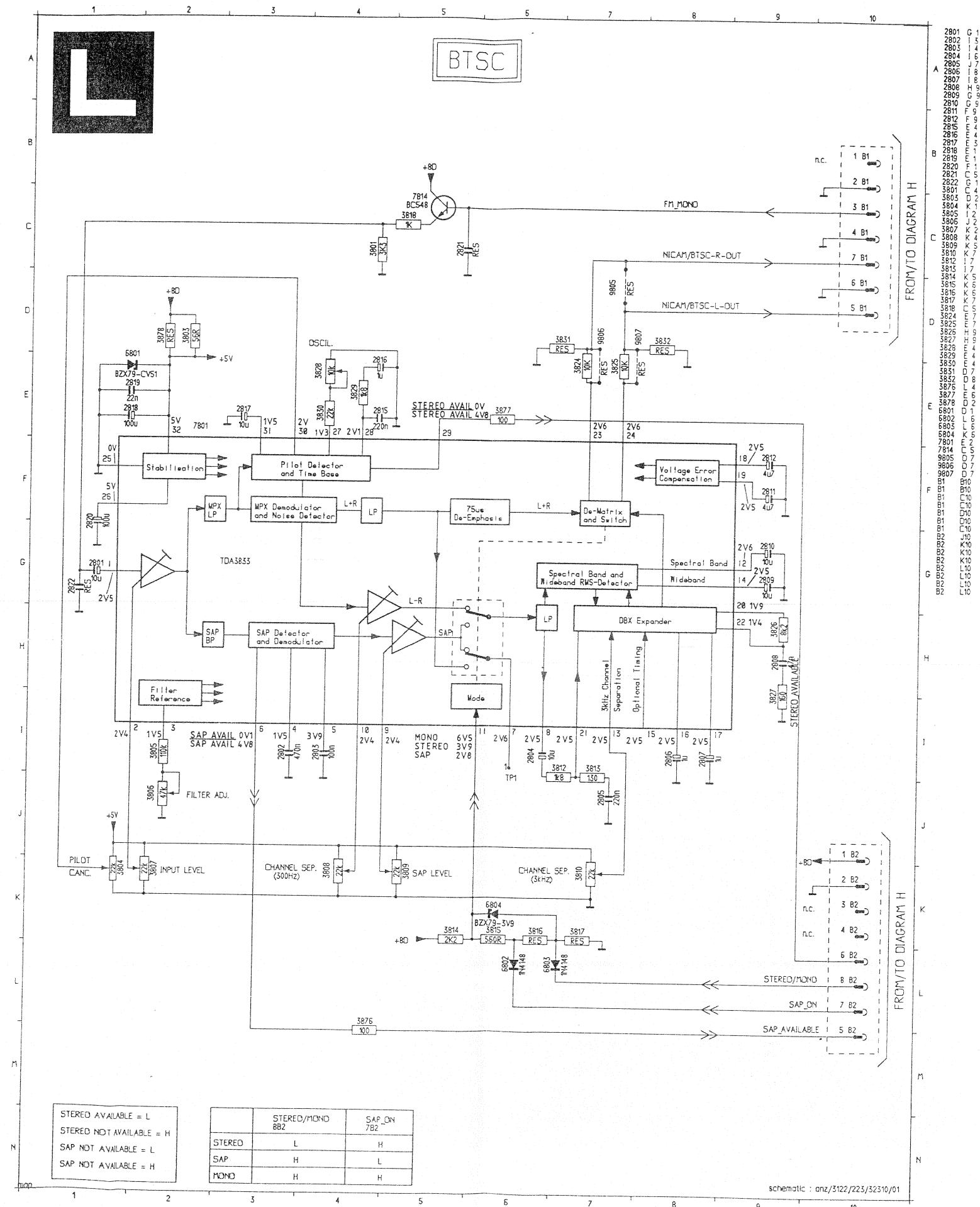
B

A

1018 C3
1028 B1
1052 B4
2007 B1
2008 C1
2011 B2
2015 C2
2018 C2
2019 B1
2020 B3
2021 B3
2022 A2
2024 B3
2025 B2
2028 B1
2029 B1
2030 B1
2033 A2
2034 A1
2038 A3
2039 A2
2040 A3
2041 A3
2042 B3
2043 B3
2044 A3
2045 B4
2046 C6
2049 B4
2050 A5
2052 B4
2055 D6
2057 D6
2058 D5
2060 E5
2061 E5
2062 D6
2064 D5
2065 E6
2068 D4
2069 D4
2070 E4
2071 E4
2072 D5
2075 D4
2076 E5
2077 D3
2078 D3
2080 B6
2082 D1
2093 E1
2096 E2
2097 D2
3006 B1
3007 C2
3008 B1
3009 B1
3011 B1

3012 E2
3013 E4
3015 C1
3018 C2
3020 B3
3021 B2
3022 B2
3028 B2
3029 B1
3030 B2
3033 A2
3034 A2
3035 B4
3037 A3
3040 A6
3041 A6
3042 B6
3043 B6
3044 C6
3045 B4
3047 B3
3050 A3
3051 A4
3052 A4
3053 A3
3054 A4
3055 A4
3057 D6
3058 D5
3059 D5
3060 E6
3061 D5
3062 D4
3067 D5
3068 D4
3069 D4
3070 D4
3071 E5
3072 D3
3073 D4
3074 D3
3075 E4
3076 E4
3077 D3
3078 D3
3080 A5
3081 A5
3082 A5
3083 A5
3084 A5
3085 B5
3086 C6
3087 C6
3092 D1
3093 D1
4024 B1
4025 A2
4040 A6

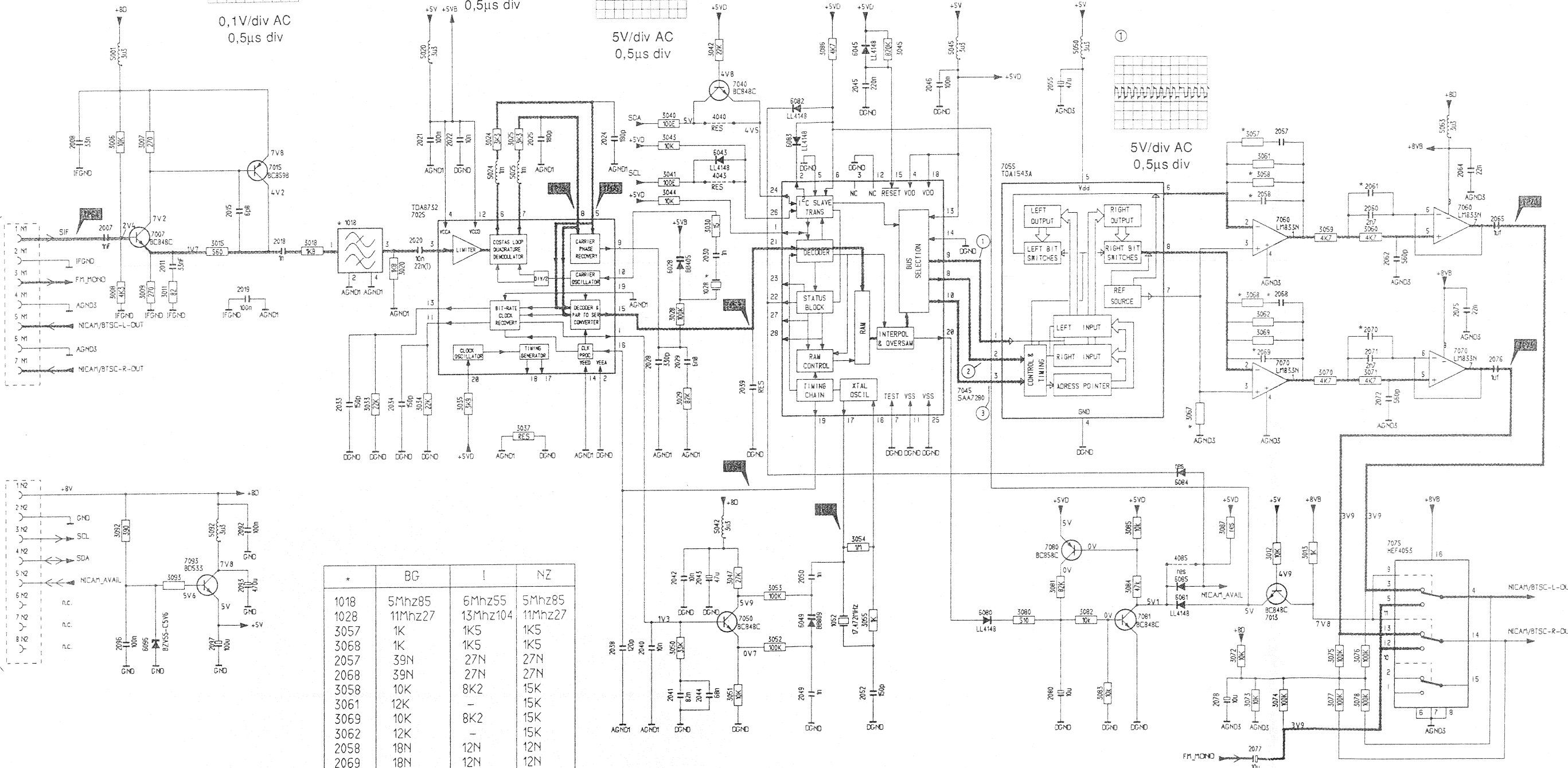
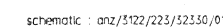
4041 A6
4043 B6
4045 B6
4070 E4
4077 D3
4078 D3
4079 C3
4085 D6
5001 D1
5002 B3
5024 B2
5025 B2
5042 D1
5045 B5
5050 C6
5052 D2
5092 D1
6028 B1
6043 B6
6045 B5
6049 A4
6080 B5
6081 C6
6082 C6
6083 C6
6084 B6
6085 D6
6096 E1
7007 B2
7013 E2
7015 E2
7025 A2
7040 A6
7045 B5
7050 A4
7055 C3
7060 E6
7070 E3
7075 C3
7081 A6
7093 D2
9018 E4
9025 E3
9033 D3
9045 A5
9050 A6
9075 C5
9076 A5
9078 A5
9092 D2
9093 C3
9097 D3
N1
N2

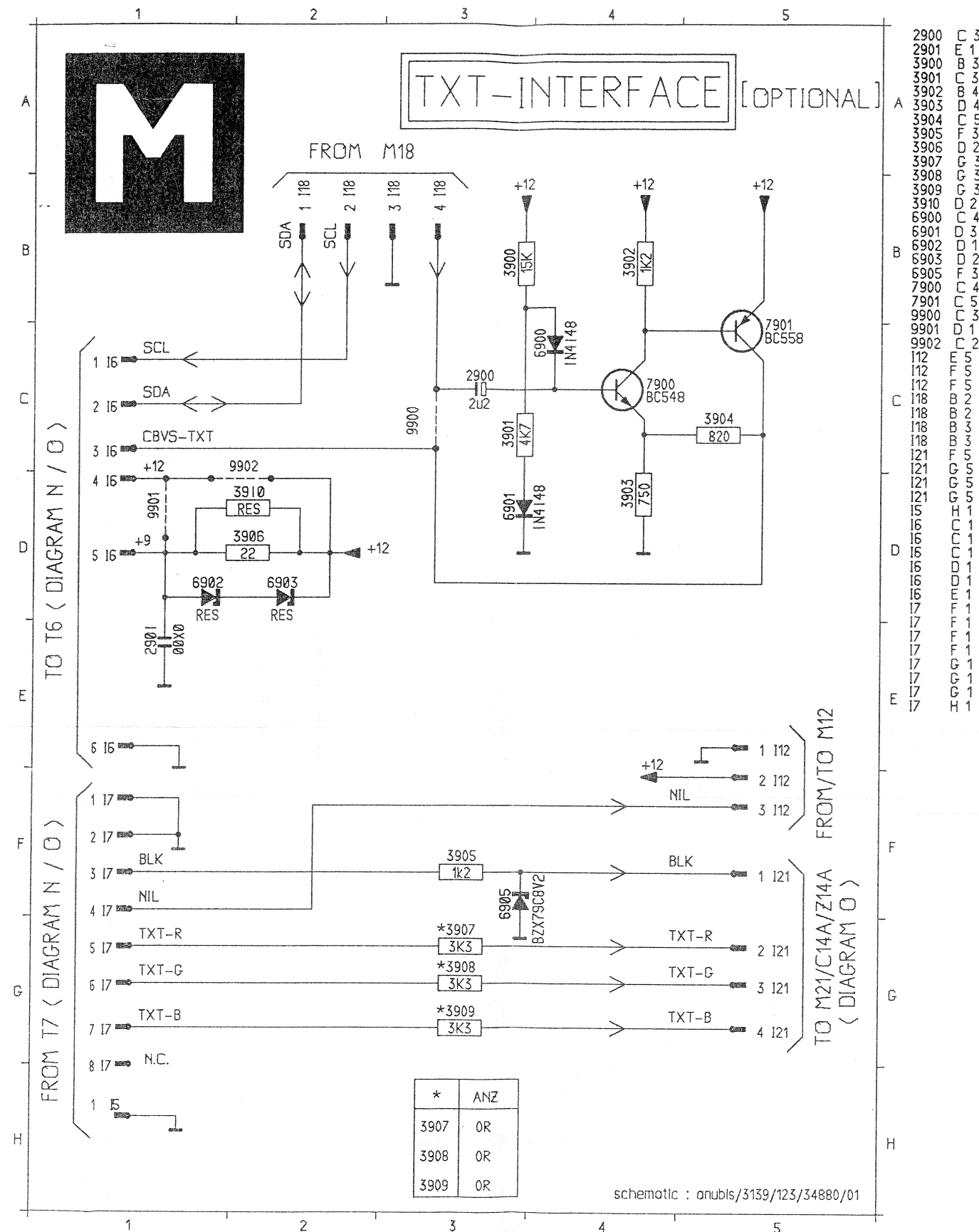


STEREO AVAILABLE = L	STEREO/MONO	SAP_ON
STEREO NOT AVAILABLE = H	8B2	7B2
SAP NOT AVAILABLE = L	STEREO	L
SAP NOT AVAILABLE = H	SAP	H
	MONO	H

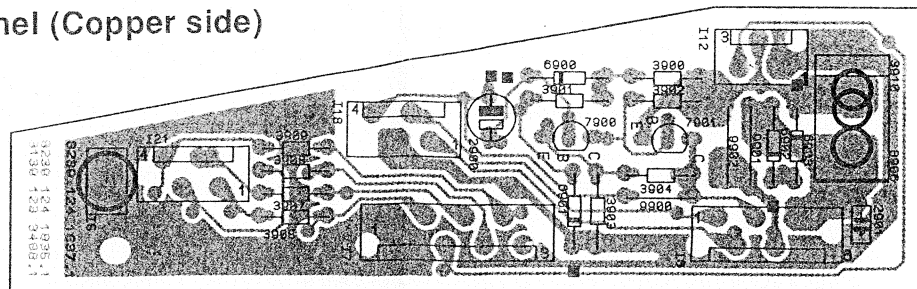
FROM/TO DIAGRAM H

FROM/TO DIAGRAM H

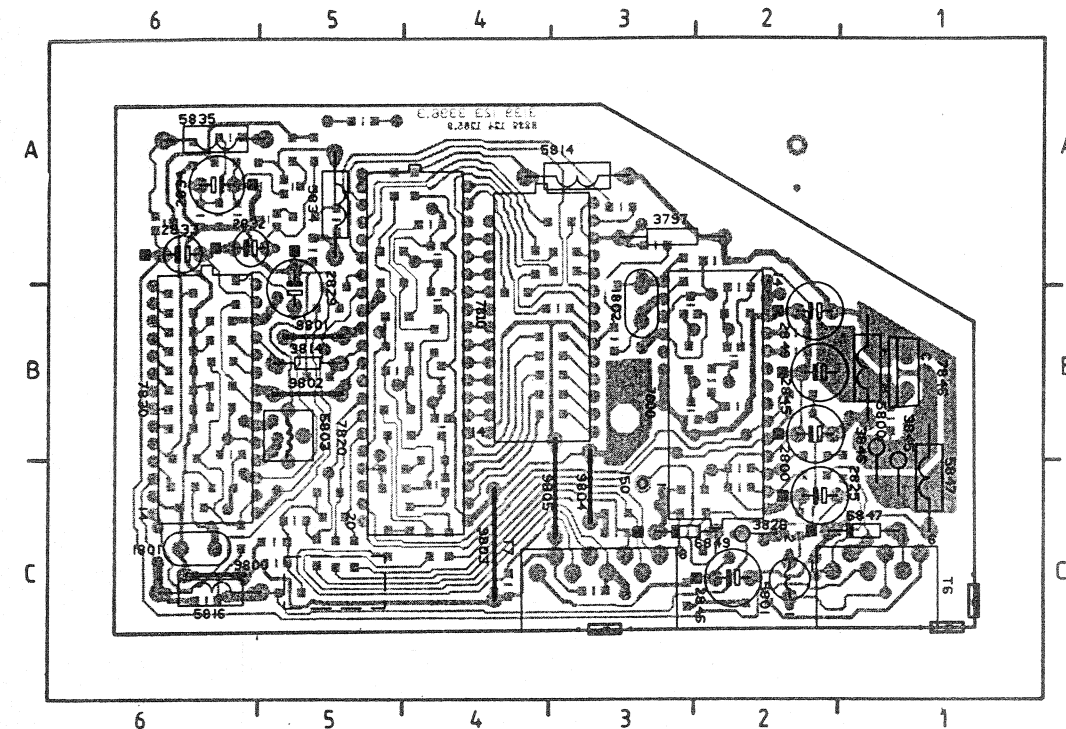




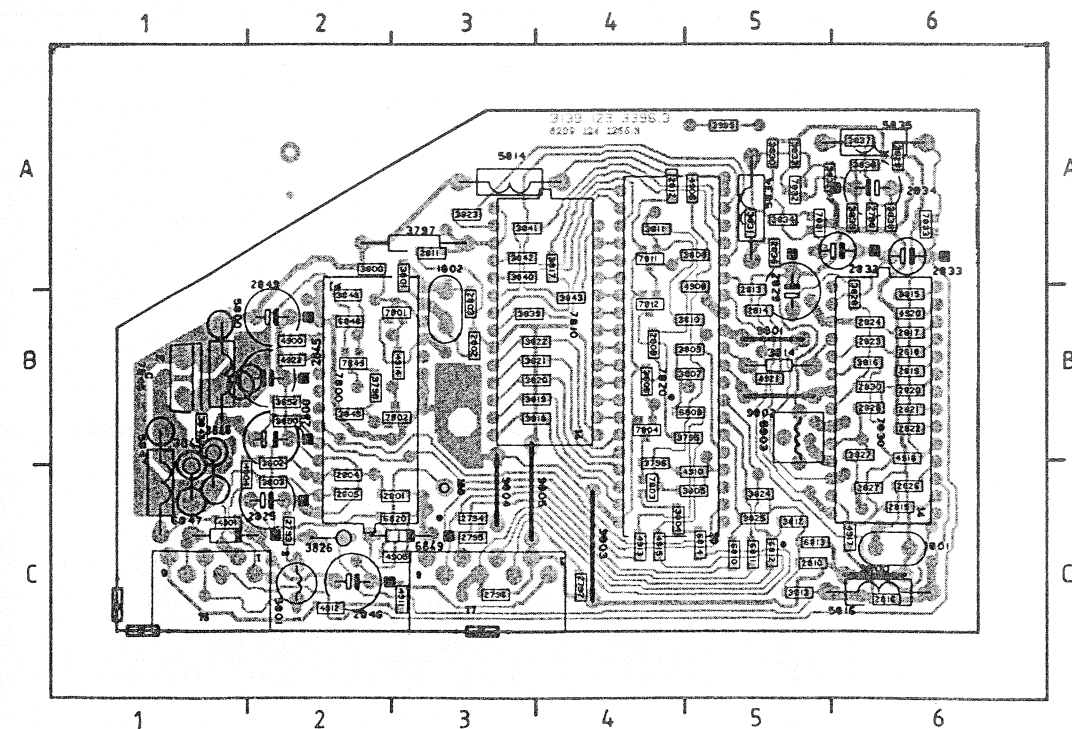
TXT interface panel (Copper side)

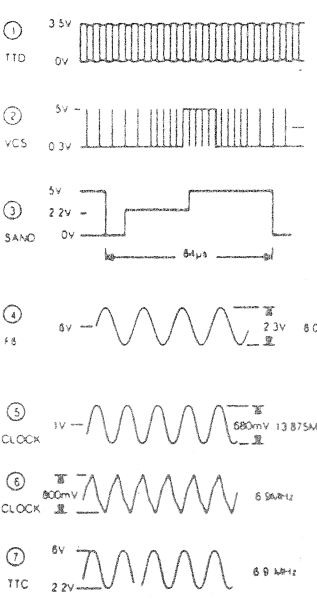
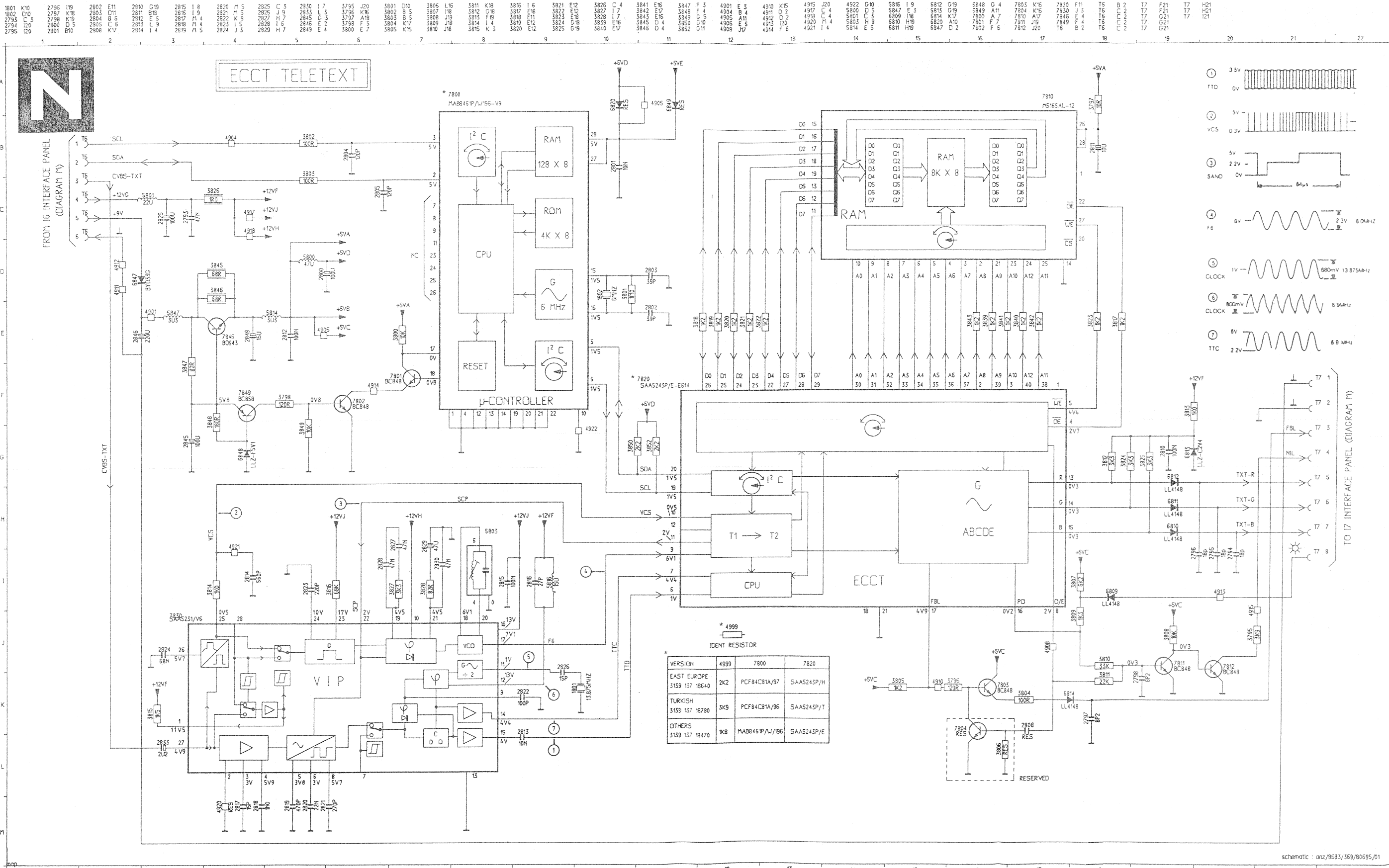


Panel interface TXT (FLOF ECCT)



1801	C6	2814	B5	2834	A6	3811	A4	3830	A5	3850	B2	5800	B1	7801	B2	9805	C4
1802	A3	2815	C6	2836	A5	3812	C5	3831	A5	3852	B2	5801	C2	7802	B2	T6	C1
2793	C2	2816	C6	2846	C2	3813	C5	3832	A5	3999	A5	5803	B5	7803	C4	T7	C3
2794	C3	2817	B6	2849	B2	3814	B5	3833	A5	4900	B2	5814	A3	7804	B4		
2795	C3	2818	B6	3795	B4	3815	B6	3834	A5	4901	C1	5816	C6	7810	B4		
2796	C3	2819	B6	3796	C4	3816	B6	3835	A6	4904	C1	5834	A5	7811	A4		
2797	C4	2820	B6	3797	A3	3817	A4	3836	A6	4905	C2	5835	A6	7812	B4		
2798	A6	2821	B6	3798	B2	3818	B3	3837	A6	4906	A5	5847	B1	7820	B4		
2800	B2	2822	B6	3800	A2	3819	B3	3838	A6	4908	B5	6809	B4	7830	B6		
2801	C2	2823	B6	3801	A3	3820	B3	3839	B3	4910	C4	6810	C5	7831	A5		
2802	B3	2824	B6	3802	B2	3821	B3	3840	A3	4911	C3	6811	C5	7832	A5		
2803	B3	2825	C2	3803	C2	3822	B3	3841	A3	4912	C2	6812	C5	7833	A6		
2804	C2	2826	C6	3804	C4	3823	A3	3842	A3	4913	C4	6813	C5	7846	B1		
2806	C2	2827	C6	3805	C4	3824	C5	3843	B4	4915	C4	6814	C6	7849	B2		
2808	B4	2828	B6	3806	B4	3825	C6	3846	B1	4917	C6	6820	C2	8800	C6		
2810	C5	2829	A5	3807	B4	3826	C2	3846	B1	4918	B6	6847	C1	8801	B6		
2811	A3	2830	B6	3808	A5	3827	B6	3847	B1	4920	B6	6848	B2	8802	B5		
2812	A4	2832	A6	3809	B4	3828	B6	3848	B2	4921	B5	6849	C3	8803	C4		
2813	B5	2833	A6	3810	B4	3829	A6	3849	B2	4922	B2	7800	B2	8804	C3		





VERSION	4999	7800	7820
EAST EUROPE	2K2	PCF84C81A/97	SAAS243P/H
TURKISH	3K9	PCF84C81A/96	SAAS243P/T
OTHERS	1K8	MAB845P/L/196	SAAS243P/E

I7	T7	I21	C14A	I18	M18	I6	T6
1	NC	1	BLANKING	1	SDA	1	SCL
2	B	2	TXT R	2	SCL	2	SDA
3	G	3	TXT G	3	GND	3	CVBS - TXT
4	NC	4	TXT B	4	CVBS - TXT	4	+12V
5	NC	5	FOR NO MULTI - SOUND	5	NC	5	+9V
6	NC	6	NC	6	NC	6	GND
7	NC	7	NC	7	NC	7	NC
8	NC	8	NC	8	NC	8	NC

T7	I7	T6	I6
1	GND	1	SCL
2	GND	2	SDA
3	BLK	3	CVBS - TXT
4	NIL	4	+12V
5	R	5	+9V
6	G	6	GND
7	B	7	NC
8	NC	8	NC

1. Settings on the carrier panel

1.1 +95V / +115V power supply voltage

Connect a multimeter (DC) across C2531. Set brightness at mid position and contrast at maximum. Apply a pattern generator with a colour bar. Adjust potentiometer **3512** to $+95\text{V} \pm 0.5\text{V}$, DC / $+115 \pm 0.5\text{V}$.

1.2 Horizontal centring

Is adjusted with potentiometer 3420.

1.3 Picture width (horizontal amplitude) 25" only

Is adjusted with potentiometer 3484.

1.4 East west correction 25" only

Is adjusted with potentiometer 3489.

1.5 Vertical centring

Is adjusted with switch 3408.

1.6 Picture height

Is adjusted with potentiometer 3410.

1.7 Focusing

Is adjusted with the focusing potentiometer in the line output transformer 5445 (if necessary brightness at minimum and contrast at maximum).

1.8 RF AGC adjustment

Connect pattern generator (e.g. PM5518) to the aerial input with RF signal amplitude = 1 mV. Connect a multimeter (DC) at pin 5 of tuner. Adjust **R3264** so that voltage at pin 5 of tuner is $7.5 \pm 0.5V$ DC.

1.9 Picture demodulator adjustment

Connect a pattern generator (e.g. PM5518) with a cross hatch. Connect an oscilloscope (1 μ s/DIV) to pin 7 of IC7225 and adjust **L5260** so that the overshoot response is minimum, see Fig. 7.1.

Select a colour bar signal and verify if the picture is alright.

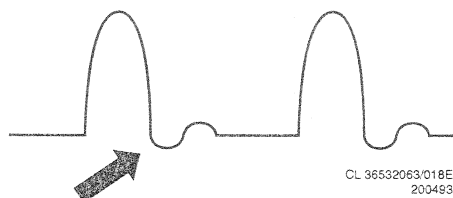


Fig. 7.1

1.10 Adjustment of 34.4 MHz carrier trap
(for full multi sets only, so -/56/57/69/70/93)

Switch off the set.
Disconnect pin 17 of the tuner by desoldering the V-cut at pin 17 of the tuner. Switch on the set and force it to M-reception via the second install menu. Connect a signal generator at 34.4 MHz at pin 4 of plug M3. Connect an oscilloscope (1µs/DIV) to pin 1 of the SAW filter 1015 and adjust **L5020** for minimum amplitude of the signal.
Resolder the V-cut to reconnect the tuner.

2. Settings on the CRT panel

2.1 VG2 cut off adjustment

Connect a pattern generator (e.g. PM5518) and set it to white raster pattern.
Set contrast and the Vg2 potentiometer (in line output transformer) minimum. Adjust with brightness control the top video level at pin 4 of plug L7 (on CRT panel) to the same voltage level as the emitter of transistor of transistor TS7325.

Note: store this value as Personal Preference (PP)!!
Pre-adjust the black level preset potentiometers of each gun, **3307** (B), **3320** (G) and **3334** (R), to give a black level of 140V on pins 11, 6 and 8 on the picture tube socket.

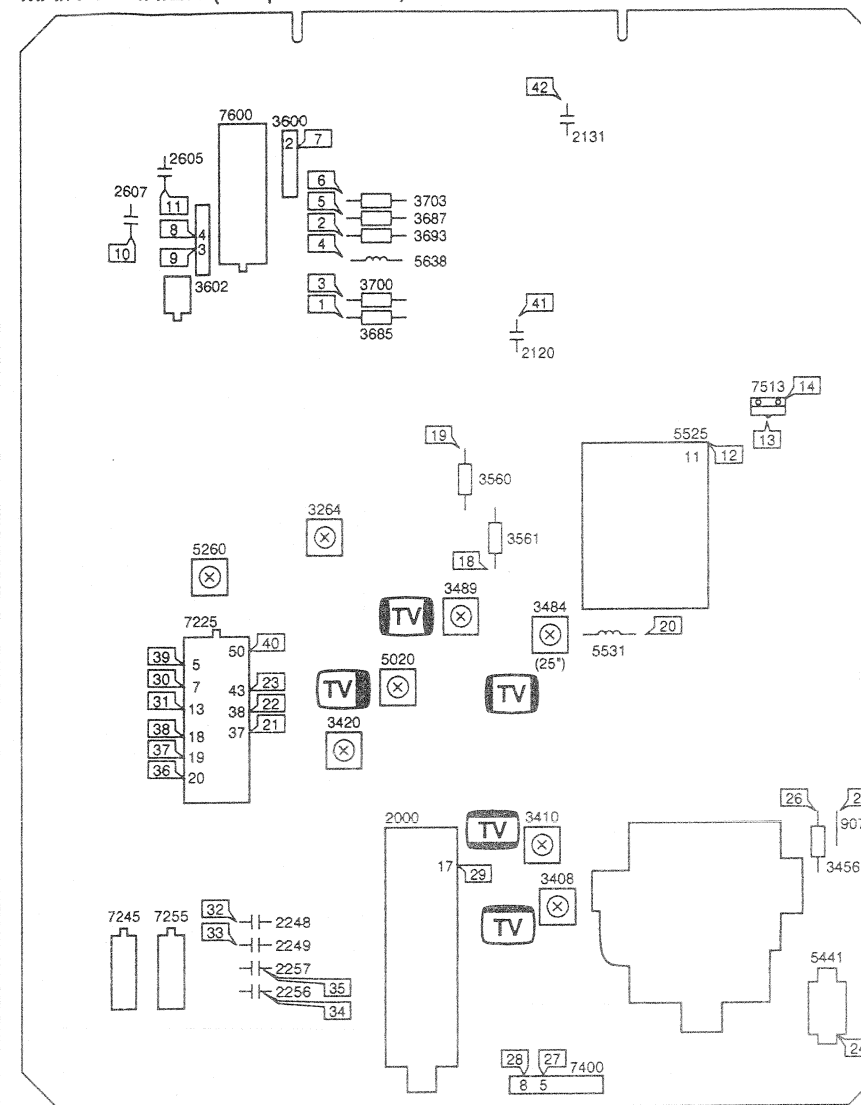
Remove probe of voltmeter or oscilloscope. Adjust the Vg2 potentiometer until one of the colours just becomes visible. Adjust the **other** two guns by means of the corresponding resistors (3307, 3320 or 3334) until the colours just become visible or until the picture is white.

2.2 White-D adjustment

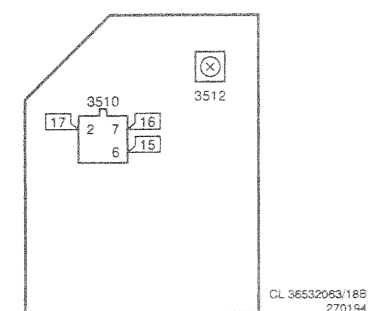
Use the same signal as prescribed in 2.1. Adjust contrast to such a level that red is good visible. Adjust potentiometers **3313** (B) and **3314** (G) to correct White-D picture.

Note: Store nominal values for contrast, saturation and brightness as Personal Preference when settings 2.1 and 2.2 have been carried out.

MAIN CARRIER (component side)

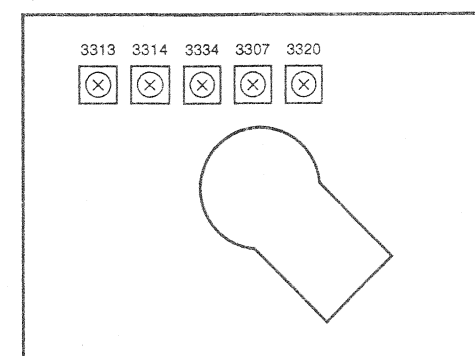


CL 36532063/18A
020294

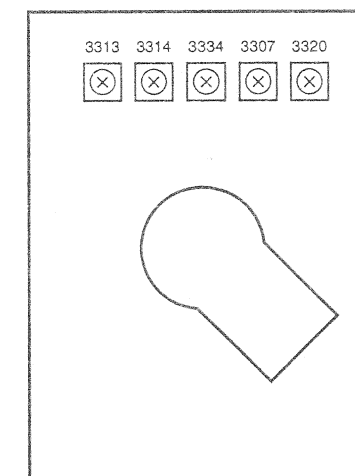
POWER SUPPLY
CONTROL PANEL

CL 36532063/188
270194

CRT PANEL 21"



CRT PANEL 25"



CL 46532010/016
270194

3. Adjusting the picture tube

Note:

The colour purity and convergence adjustments described hereafter need only be carried out if a completely new adjustment is called for or if a new picture tube has been fitted. Otherwise, for instance after replacing the deflection unit, it will not be necessary to remove the rubberwedges (G in Fig. 4), corrections by means of the multi-pole unit will then suffice.

3.1 Colour purity (see Fig. 4)

1. Loosen fixing screw "F" of the deflection unit a few turns.
2. Move the deflection unit and remove the three rubber wedges "G".
3. Slide the deflection unit forward as far as possible against the glass of the picture tube cone and tighten fixing screw "F" in such a manner that the deflection unit can be moved with some friction.
4. Place the multi-pole unit in the position shown, turn screw "A" and turn securing ring "B" counter clockwise.
5. Let the apparatus face East or West and switch on the set.
Supply a cross-hatch pattern and set brightness control to maximum. Allow for a warming-up time of 10 minutes.
6. Adjust the static convergence, using tabs "C" and "D" (if necessary, see procedure II).
7. Switch off the green and the blue gun by disconnecting the resistors 3316 and 3303.
8. By turning the colour purity rings with tabs "E", the vertical red bar is adjusted nearest to the centre of the screen, while the central horizontal line should be as straight as possible.
9. Supply a white pattern signal and check that the red bar is in the centre of the screen. If not, switch on the cross-hatch pattern again and move the red bar in the right direction, taking care that the picture does not move too much in vertical direction.
10. Supply the white pattern signal and move the deflection unit until the whole picture surface is uniformly red.
11. Switch on the green and the blue guns by reconnecting R3316 and R3303. No colour patches should occur in the white picture now obtained. If necessary a minor correction can be made by slightly turning the colour purity rings "E" and/or slightly moving the deflection unit.
12. Tighten screw "F" tightly.
13. Proceed to the static and dynamic convergence adjustments.

3.2 Static convergence (see Fig. 4)

1. Supply a cross-hatch pattern and allow for a warming-up time of 10 minutes.
2. Switch off the green gun by disconnecting resistor 3316 and turn locking ring "B" anticlockwise.
3. By turning the four-pole rings with tabs "C", the red and blue cross-hatch patterns in the centre of the screen are placed on top of each other.
4. Switch on the green gun by reconnecting 3316 and switch-off the blue gun by disconnecting resistor 3303.
5. By turning the six-pole rings with tabs "D" the red and green cross-hatch patterns in the centre of the screen are placed on top of each other.
6. Switch-on the blue gun again and tighten ring "B" again.

3.3 Dynamic convergence (see Fig. 5 and 6)

Remark:

The dynamic convergence is achieved by vertical and horizontal tilting of the deflection unit. To secure the right position of the deflection unit, three rubber wedges are fitted between the glass of the picture tube and the deflection unit, as shown in Fig. 5d or 6d.

1. First check the colour purity and switch off the green gun by disconnecting resistor.
2. Supply a cross-hatch pattern and switch off the green gun by disconnecting resistor 3316.
3. Eliminate the crossing of the central horizontal blue and red line and the crossing of the central vertical blue and red line, by vertical tilting of the deflection unit. If the position of the deflection unit is correct, then place rubber wedge 1, paper strip not removed, at the top (Fig. 5a) or at the bottom (Fig. 6a). Fig. 5a is applicable if the deflection unit is tilted upwards and Fig. 6a if the unit is tilted downwards.
4. by horizontal tilting of the deflection unit, now both the horizontal blue and red lines in the upper and lower halves of the picture and the vertical blue and red lines on the left and right hand side of the picture are placed on top of the other.
If the position of the deflection unit is correct, then place wedges 2 and 3 with paper strips removed, as shown in Fig. 5b or 6b. Firmly press the adhesive sides of these wedges against the glass of the picture tube.
5. Now place wedge 4 as shown in Fig. 5c or 6c and press on the adhesive side firmly.
6. Remove wedge 1, to obtain the condition shown in Fig. 5d or 6d.
7. Switch on the green gun by reconnecting 3316.

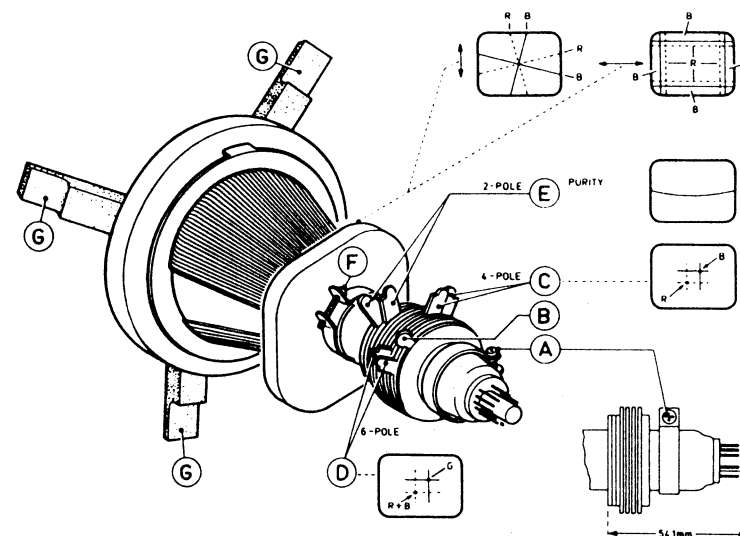


Fig. 4

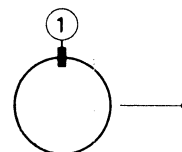


Fig. 5a

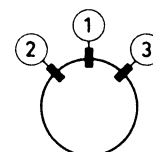


Fig. 5b

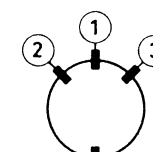


Fig. 5c

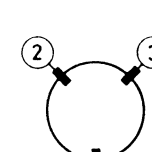


Fig. 5d

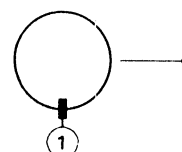


Fig. 6a

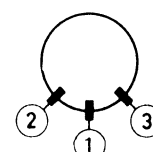


Fig. 6b

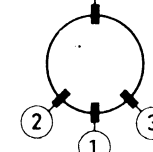


Fig. 6c

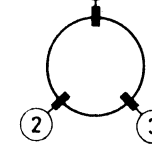


Fig. 6d

4. Settings on the QSS panel

4.1 38.9 MHz IF demodulation adjustment

Connect a pattern generator (e.g. PM5518) to the tuner with a sound carrier but with no audio modulation on the carrier. Connect an oscilloscope to pin 1 Q4 (SIF output). Adjust coil L5003 to get minimal video ripple.

4.2 AF1 (L+R) sound demodulation adjustment

Connect a pattern generator (e.g. PM5518) to the tuner with sound modulation 1 kHz on both L- and R-channels. Connect an oscilloscope to pin 5 Q4 (AF1 output). Adjust coil L5004 to get maximum audio output.

4.3 AF2 (2R) sound demodulation adjustment

Connect a pattern generator (e.g. PM5518) to the tuner with 1 kHz sound demodulation on R-channel and no sound demodulation on L-channel. Connect an oscilloscope to pin 3 Q4 (AF2 output). Adjust coil L5005 to get maximum audio output.

5. Settings on the 2CS + I/O + amplification panel

5.1 Stereo channel separation adjustment

Connect a pattern generator (e.g. PM5518) to the tuner with sound modulation 3 kHz on the L-channel and 1 kHz on the R-channel. Connect an oscilloscope to pin 12 IC7800 (L-INT or TP46). Adjust potentiometer 3801 to get optimal 3 kHz audio output.

5.2 Subwoofer volume adjustment (optional)

Adjust subwoofer volume in respect with squeeters volume via potentiometer R3182.

6. Settings on NICAM stereo panel

6.1 Nyquist filter

The NYQUIST filter 1018 is factory adjusted and may/can NOT be adjusted by service.

7. Settings on BTSC panel

7.1 Input gain adjustment

Adjust R3807 for optimal BTSC reception

7.2 Oscillator adjustment

Connect pin 31 to pin 32 (+5V) of IC7801 by a 2k7 resistor. Connect an oscilloscope (or frequency counter) to pin 7 of IC7801 and align R3828 at 15,734 kHz (pilot frequency).

7.3 Pilot cancelation adjustment

Select an off-air BTSC channel with a strong pilot. Connect an oscilloscope at pin 7 of IC7801 and adjust R3804 for minimum 15,734 kHz, then R3806 for minimum 15,734 kHz and then again R3804 for minimum 15,734 kHz.

7.4 Stereo channel separation at 300 Hz

Connect an BTSC generator (e.g. Leader Model LMS-238P) to the tuner input. Set generator to an internal frequency of 300 Hz at L-signal only with Pilot and SAP "on" and Level Control pushed in. Connect AC millivoltmeter at pin 23 IC7801 (R-output) and align R3808 for minimum amplitude at pin 23.

7.5 Stereo channel separation at 3 kHz

Connect an BTSC generator (e.g. Leader Model LMS-238P) to the tuner input. Set generator to an internal frequency of 3 kHz at L-signal only with Pilot and SAP "on" and Level Control pushed in. Connect AC millivoltmeter at pin 23 IC7801 (R-output) and align R3810 for minimum amplitude at pin 23.

If no BTSC generator available try to adjust R3808 and R3810 for optimal stereo channel separation over the entire audio spectrum by listening.

7.6 SAP level alignment

Select a BTSC channel with dual language. Switch with the remote control from language I to language II and adjust R3809 until both I and II have approx. same sound amplitude.

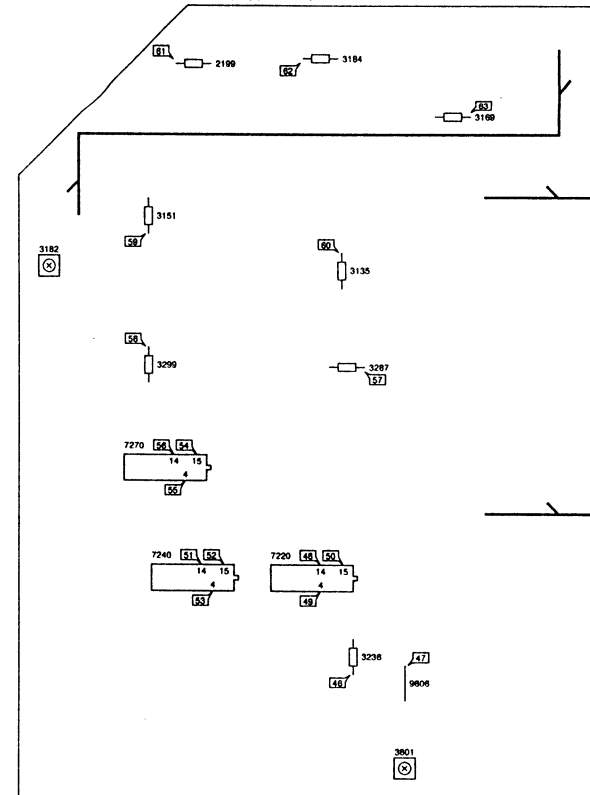
Tip: IC7801 can be forced by a DC voltage at pin 11:

Pin 11 = 2.5V → SAP (second audio program)/Language II mode

Pin 11 = 4.25V → Stereo mode

Pin 11 = 7.2V → Mono mode

2CS + I/O + amplification panel (copper side)



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block diagram

The data at address 254 by then is: 59

For option addresses 247 up to and including 253 the values in table 8.3 are related to the used tuner and to NICAM and Multisound panel present or not present. The values given in this table can directly be keyed in as the data for the corresponding option addresses.

The changed settings are only activated when the set is switched off and on again and if the checksum at address 254 is correctly updated; if the checksum is not OK the set will use default settings!!

The checksum can be obtained by adding all data at the addresses 245 up to and including 253 and then subtract 256 until the data has a value under 256: for example, if EEPROM contains the following data, the checksum will be:

Address	Data
245	187
246	117
247	41
248	82
249	74
250	33
251	132
252	8
253	226

	900

$$900 - 256 - 256 - 256 = 132$$

Checksum address	Data
254	132

The other addresses of the EEPROM (so all addresses except 240 to 254 and 220) contain program information and preference-, factory- and current settings.

4.2.3 Display error codes detected in the past

The data at address 220 indicates all error codes detected in the past. The data at address 220 is a byte whereby the 8 bits refer to 8 possible error codes detected in the past; see table 8.2.

Data at address 220	Error codes: 8 7 6 5 4 3 2 1	Error codes detected in the past
000	0 0 0 0 0 0 0 0	No error codes detected
001	0 0 0 0 0 0 0 1	1
002	0 0 0 0 0 0 1 0	2
003	0 0 0 0 0 0 1 1	1 & 2
004	0 0 0 0 0 1 0 0	3
005	0 0 0 0 0 1 0 1	1 & 3
006	0 0 0 0 0 1 1 0	2 & 3
007	0 0 0 0 0 1 1 1	1 & 2 & 3
etc.		
etc.		
255	1 1 1 1 1 1 1 1	1 & 2 & 3 & 4 & 5 & 6 & 7 & 8

Table 8.2

4.2.4 Erase the error code detected in the past

If data at address is overwritten with 000 the error code history has been erased.

4.3 Exit of the Service Mode:

For all software numbers the Service Mode is exited via the standby command.

5. Replacing an EEPROM

Besides of the option settings also information about programs, PP (personal preference), IP (initial or factory preference, the "NORMAL" in the PP-toggle function) and CU (current settings at the moment the set was switched off) are stored in the EEPROM. After replacing an EEPROM the PP will be stored after pressing the PP store button and the CU will be stored after switching off the set. But as the IP can not be filled via a "Normal Operation", this has to be done (although it is not necessary for basic operation of the set) in the Service Mode by storing the following data at the respective addresses:

Address	VST-sets	PLL-sets
232	63	63
233	20	30
234	33	39
235	32	32
236	176	170
237	160	160
238	20	20

6. Hotel mode

Hotel mode can only be activated if:

1. Software for hotel mode is available (so an "H" version)
 2. When hotel mode option (address 246) is enabled
- Two hotel modes are possible:

Hotel mode 1:

- * Activating by simultaneously pressing the "STORE" and "PROGRAM-" on the local keyboard while program 38 is selected. Both keys must be held down for at least 3 seconds.
- * Features:
 - Install menu (also automatic search) not possible.
 - Storing PP not possible.
 - Using the "PROGRAM +/-" keys from standby will switch the TV on to program 1 instead of to the last selected program.
 - Maximum volume value is limited to the value present at the moment the hotel mode was activated.
- * Deactivating by simultaneously pressing the "PROGRAM+" and "VOLUME-" keys on the local keyboard for at least 3 seconds while program 38 is selected.

Hotel mode 2:

- * Entering by simultaneously pressing the "STORE" and "PROGRAM-" on the local keyboard while program 37 is selected. Both keys must be held down for at least 3 seconds.
- * Features:
 - Same features as Hotel mode 1 except from program numbers 30 up to 49 the screen remains blanked to be used as a radio (the transmitter should produce a valid horizontal IDENT).
 - While these blanked program numbers are tuned the small program number will be displayed permanently.
- * Deactivating by simultaneously pressing the "PROGRAM+" and "VOLUME-" keys on the local keyboard for at least 3 seconds while program 37 is selected.

Option setting table for software number A

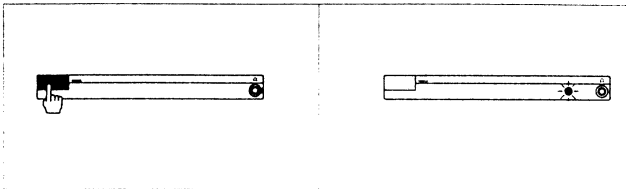
Address	Option A	Value	Option B	Value
245	2 CS stereo possible	0	2 CS stereo not possible	128
	AV stereo playback enabled	0	AV uses mono only	64
	No AV selectable	0	AV selectable	32
	No spatial sound possible	0	Spatial sound selectable	16
	No hue control possible	0	Hue control possible	8
	No simulcast	0	Simulcast available	4
	Remote STORE key allowed	0	No remote STORE key	2
246	VHF1 and VHF3 swapped for UV973 tuner	0	"Normal" bandswitch signals	1
	No hotel mode possible	0	Hotel mode can be enabled	128
	No UHF tuning possible	0	UHF band allowed	64
	No VHF3 tuning possible	0	VHF3 band allowed	32
	No VHF1 tuning possible	0	VHF1 band allowed	16
	Not used			0
	No sound standard selection	0	Auto, M, B/G, I, D/K sound selection possible	4
	Not used			0
	No colour system selection	0	Auto, SECAM, PAL/(NTSC)	1
247	No NICAM panel possible, multisound panel not present			40
	No NICAM panel possible, multisound panel present			41
	NICAM available, multisound panel not present			168
	NICAM available, multisound panel present			169
248	UV 913 / UV 973 (VST)			191
	UV 915 (VST)			42
	UV 953 (VST)			162
249	UV 913 / UV 953 / UV 973 (VST)			93
	UV 915 (VST)			73
250	UV 913 / UV 953 / UV 973 (VST)			25
	UV 915 (VST)			0
251	UV 913 / UV 953 / UV 973 (VST)			134
	UV 915 (VST)			129
252	All VST tuners			0
253	UV 913 / UV 953 / UV 973 (VST)			224
	UV 953 (VST)			225

Table 8.3

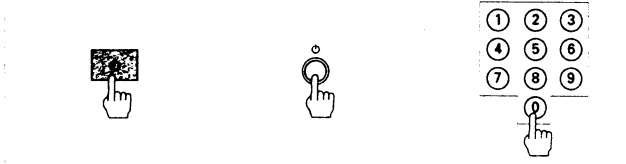
9. Directions for use

Switching the TV ON/OFF

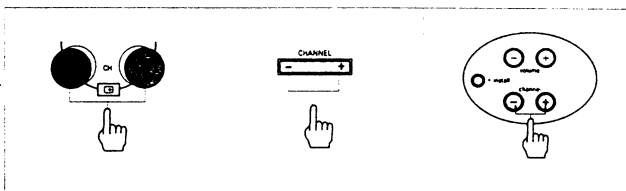
- Press the **POWER** button on the front bottom left hand corner of the TV to switch ON/OFF and wait a few seconds for the sound or signal to come on.
- If there is a red light on the bottom of the screen, it indicates that the TV has been put to "Stand-by" mode.



- Press the **STAND-BY** button () or any digit buttons on the remote control handset OR



- Press the **CHANNEL +** or **-** button on the remote control handset or the TV control



11

Searching and Storing TV Channels

For searching and storing TV channels you need to work with the control buttons at the top of the TV and your remote control handset. (Up to 70 TV stations can be stored on channel numbers using the following methods.) You can store the TV stations either automatically or manually.

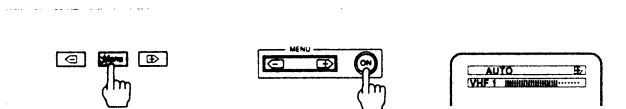
(Note : For Australia (version /75) the TV is pre-tuned to channel number 0, 2, 7, 9, 10 and 28.)

A. To Store the TV Stations Automatically

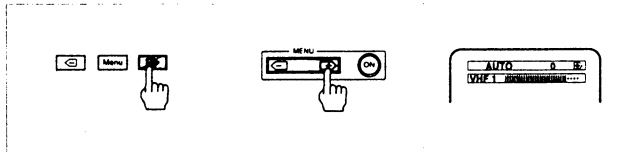
- Press the **INSTALL** button at the top of the TV with a pointed object to start the **INSTALLATION** menu; the **AUTO** menu is selected first.



- Press the **MENU** or **MENU ON** button on the remote control handset to select the **AUTO** menu.



- Press the **MENU +** button on the remote control handset to start the **AUTO** mode. The TV will start searching and store all available stations in an ascending sequence.



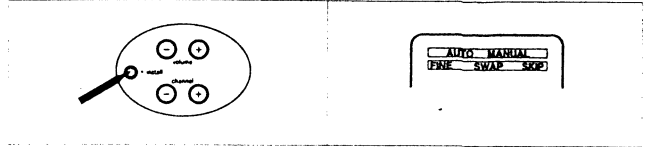
NOTE : If at any time of the **AUTOMATIC TUNING** procedures and you wish to exit, press the **EXIT** button on your remote control handset.

When all the available stations are stored, it will automatically exit from the **INSTALLATION** Menu and channel 1 will be displayed. In case the picture and sound is not optimum, proceed to the section on **Fine Tuning**.

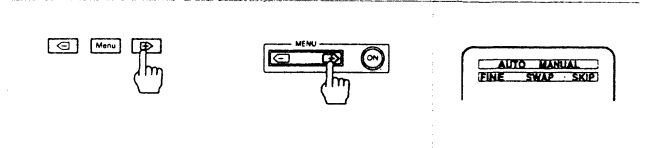
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B. To Store the TV Stations Manually

- Press the **INSTALL** button at the top of the TV set with a pointed object to start the **INSTALLATION** Menu.

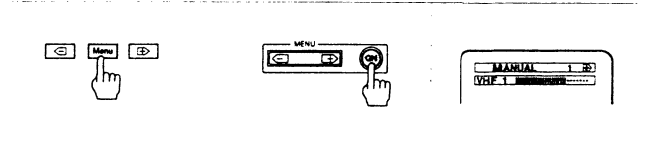


- Press the **MENU +** button on the remote control handset to highlight the **MANUAL** menu.

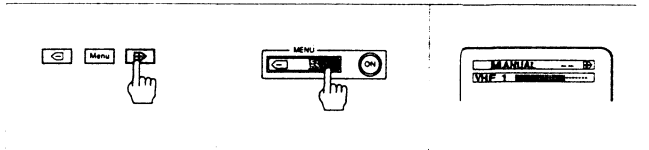


NOTE : If at any time of the **MANUAL TUNING** procedures and you wish to exit, press the **EXIT** button on your remote control handset.

- Press the **MENU** or **MENU ON** button on the remote control handset to select the **MANUAL** Menu.



- Press the **MENU +** button on the remote control handset to start the **MANUAL** mode. The TV will start searching and at every available station, it will prompt you to enter your preference channel number.



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If the signal is weak and you do not wish to store the TV station, press the **MENU +** button to continue searching.

If the signal is good and you wish to store the TV station, select the desired channel number by pressing the **CHANNEL +** or **-** button on your remote control handset or TV control. Store your selection by pressing the **INSTALL** button.

- Repeat Step 4 to store other available TV stations.

TO EXIT :

- Press the **INSTALL** button again.

NOTE : If in case the picture and sound stored is not optimum, proceed to the section on **Fine Tuning**.

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Directions for use

C. Fine Tuning

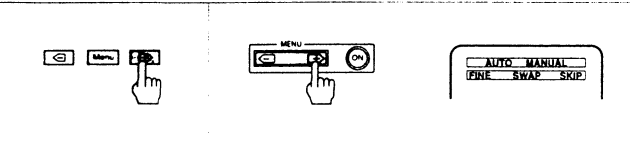
In case the picture and sound is not optimum or in area of poor reception and constant interference, a slight adjustment of the tuning may improve the picture and sound quality.

- 1. Select the channel which you want to fine tune with the CHANNEL + or - button on the remote control handset or TV control.
- 2. Press the INSTALL button at top of the TV to start the INSTALLATION Menu.

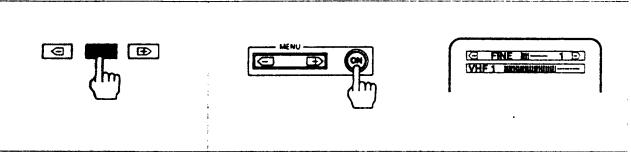


NOTE : If at any time of the FINE TUNING procedures and you wish to exit, press the [EXIT] button on your remote control handset.

- 3. Press the MENU + button on the remote control handset to highlight the FINE tuning menu.

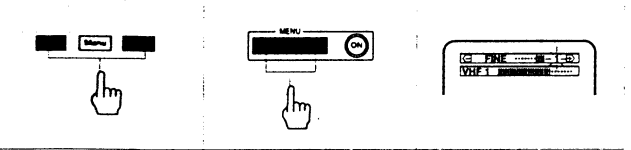


- 4. Press the MENU or MENU ON button on the remote control handset to start the FINE tuning Menu.



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- 5. Press and hold the MENU + or - button on the remote control handset until the desired picture or sound is obtained. A moving indicator and blinking channel number will appear on the screen indicating that the set is being fine tuned.



- 6. Press the INSTALL button on the TV control to store the new settings. Repeat the above procedures for other channel numbers which you wish to do a fine tuning.

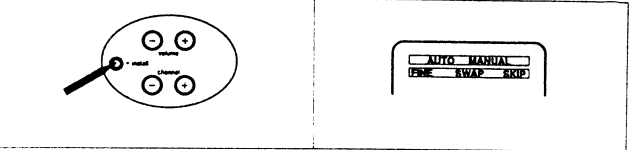


TO EXIT :
• Press the INSTALL button again.

D. Swapping channel numbers

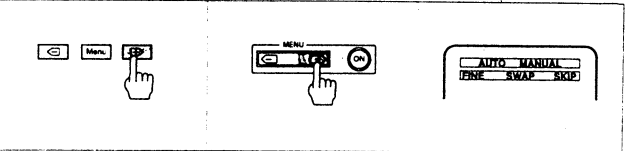
If you had used the automatic frequency searching, the TV stations stored under the channel numbers may not be to your preference. You can made use of the SWAP feature to re-arrange the TV stations according to the channel numbers of your preference.

- 1. Select the channel number which you want to do a swap.
- 2. Press the INSTALL button at the top of the TV with a pointed object to start the INSTALLATION Menu.

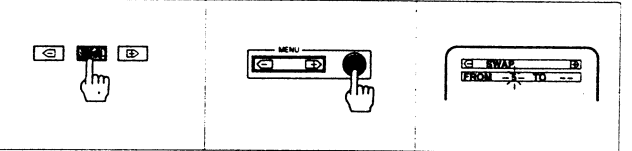


NOTE : If at any time of the SWAPPING procedures and you wish to exit, just press the [EXIT] button on your remote control handset.

- 3. Press the MENU + button on the remote control handset to highlight the SWAP menu.

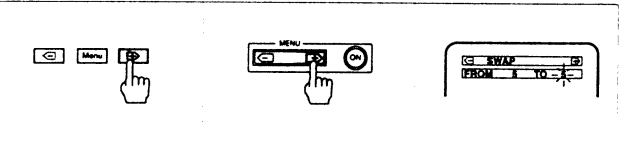


- 4. Press the MENU or MENU ON button on the remote control handset to start the SWAP Menu. The current channel will be indicated at the FROM column in green and flashing. e.g. Ch 5

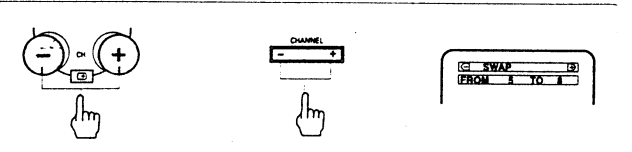


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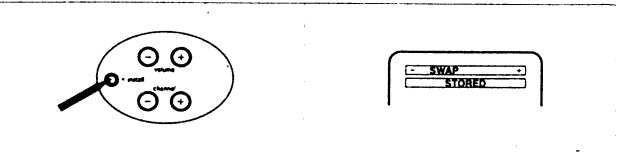
- 5. Press the MENU + button on the remote control handset to select the TO column. (Pressing the MENU + or - button will enable you to toggle between the TO and the FROM function).



- 6. Select the channel number you wish to do the swapping by pressing the CHANNEL + or - button on the remote control handset or TV control e.g. Ch 8.



- 7. Press the INSTALL button to activate the SWAP function and to store the swapped channels.



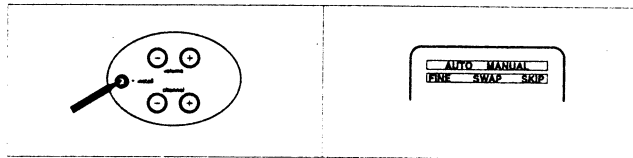
TO EXIT :
• Press the INSTALL button again.

NOTE :
When the TV is at the following modes, the SWAP feature does not activate :-
1. AV
2. Teletext (if your set is equipped)
3. The FROM column is indicated with -- symbol.

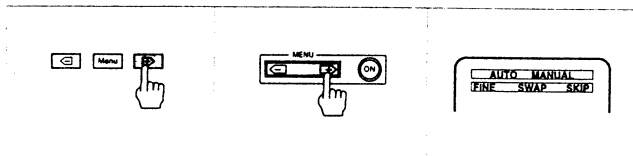
E. Skipping channel numbers

This feature enable you to skip those channel numbers which have bad or no TV station signal via the CHANNEL + or - button on the remote control handset or TV control. But if you do a direct channel number keying on a remote control handset, you still can select the particular channel number even though it is been skipped.

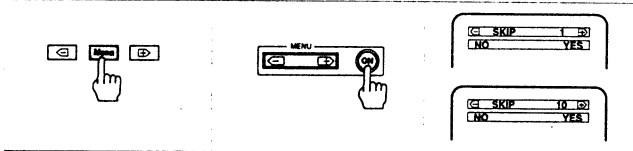
1. Press the **INSTALL** button at the top of the TV, to start the **INSTALLATION** Menu.



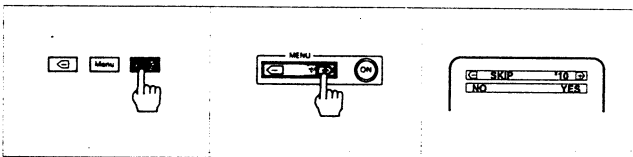
2. Press the **MENU +** button on the remote control handset to highlight the **SKIP** menu.



3. Press the **MENU** or **MENU ON** button on the remote control handset to start the **SKIP** Menu and select the required channels to be skipped with the **CHANNEL +** or **-** button on the remote control handset or TV control e.g. Ch 10.



4. Press the **MENU +** button on the remote control handset to select **YES** and the channel will be skipped from the memory. When a channel is skipped, the On Screen Display in the **SKIP** Menu will display e.g. *10 in red.



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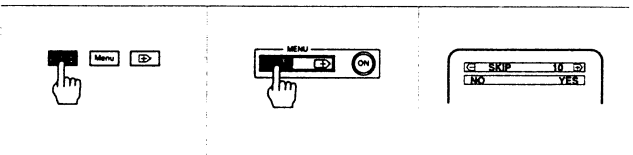
TO EXIT :

- Press the **INSTALL** button at the top of the TV.

NOTE : If you need to add back the channel that you have skipped, please refer to the section on 'Adding back the skipped channel numbers' below.

F. Adding back the skipped channel numbers

1. Repeat steps **E1** to **E4** on the previous page.
2. Press the **MENU -** button to select **NO** and the channel will be added to the memory. When a channel is added, the On Screen Display in the **SKIP** Menu will displayed, e.g. 10 in green.



TO EXIT :

- Press the **INSTALL** button at the top of the TV.

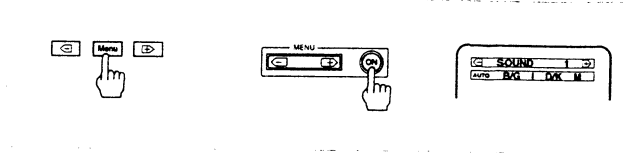
TV System Sound Selection (for multi-system sets only)

If during Automatic or Manual Tuning, the selected sound is distorted due to different TV transmission system, proceed with the following operations to restore the correct sound for the respective transmission.

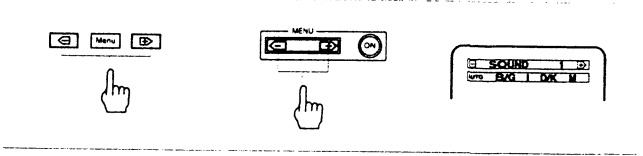
1. Select the channel number you want to rectify the sound system.
2. Press and hold the **INSTALL** button at the top of the TV continuously for about 2 seconds, to activate the **SOUND** and **COLOUR** Menu; the **SOUND** menu is selected first.



3. Press the **MENU** or **MENU ON** button on the remote control handset to start the **SOUND** menu.



4. Press the **MENU +** or **-** button on the remote control handset to select one of the following sound systems according to the respective transmission mode : **AUTO** ; **B/G** ; **I** ; **D/K** or **M**



If you select the **AUTO** mode, the TV will automatically select the respective sound system according to the transmission system.

NOTE : In area of poor reception, select the respective transmission mode **B/G**, **I**, **D/K** or **M** instead of **AUTO** mode.

5. Press the **INSTALL** button on the TV control to store the selections and to exit from the **SOUND** and **COLOUR** Menu.

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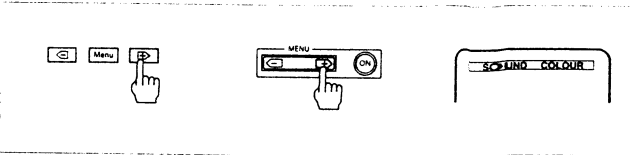
TV System Colour Selection (for multi-system sets only)

If during Automatic or Manual Tuning, the selected colour is distorted due to different TV transmission system, proceed with the following operations to restore the correct colour for the respective transmission.

1. Select the channel number you want to rectify the colour system.
2. Press and hold the **INSTALL** button on top of the TV continuously for about 2 seconds, to start the **SOUND** and **COLOUR** Menu.

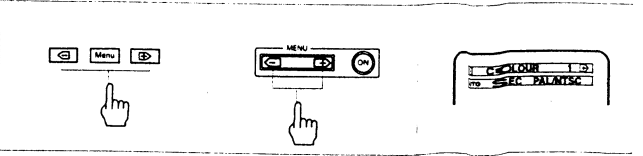


3. Press the **MENU +** button to select the **COLOUR** menu.



4. Press the **MENU** or **MENU ON** button on the remote control handset to start the **COLOUR** menu.

5. Press the **MENU +** or **-** button to select one of the following colour system according to the respective transmission mode : **AUTO** ; **SECAM** or **PAL/NTSC**



If you select the **AUTO** mode, the TV will automatically select the respective colour system according to the transmission system.

NOTE : In area of poor reception, select the respective transmission mode **SECAM** or **PAL/NTSC** instead of **AUTO** mode.

6. Press the **INSTALL** button on the TV control to store the selections and to exit from the **SOUND** and **COLOUR** Menu.

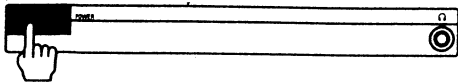
22

Directions for use

You can now operate your TV either directly using the TV buttons or the remote control handset.

1. Switching the TV ON/OFF

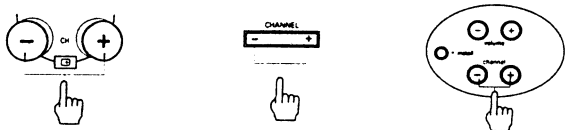
- Press the POWER button on the bottom left hand corner of your TV to switch the TV ON and OFF.



NOTE : The last viewed TV station will be automatically selected when the set is first switched on.

2. Selecting the TV Channels

- To select a TV station stored on a higher channel number
- Press the CHANNEL + on the remote control handset or the TV control.
- To select a TV station stored on a lower channel number
- Press the CHANNEL - on the remote control handset or the TV control.



Channel numbers can also be selected using the digit buttons 0 to 9 on the remote control handset.

A. Single Digit Channel Number

- Press and hold any of the respective digit buttons which correspond to the stored TV station. (see Fig. 1)

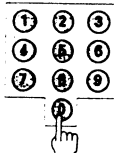


Fig. 1

B. Two Digits Channel Number

- (e.g. channel 28, see Fig. 2)
- Press the digit 2 button then
 - Press the digit 8 button.

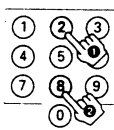


Fig. 2

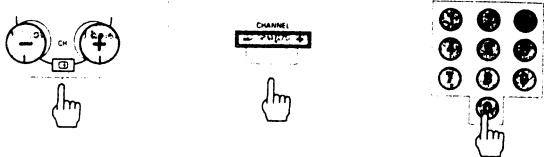
You must complete the above operation within a time frame of 2 seconds, if not, it will react as a Single Digit operation.

B. Automatically

Approximately 10 minutes after a TV station stops transmission or at no signal reception, then the TV switches itself automatically to 'Stand-by' mode.

6. Switching the TV ON from 'Stand-by' mode

- Press the CHANNEL + or - button or any digit buttons.



OR

- Press the button continuously for about 2 seconds.

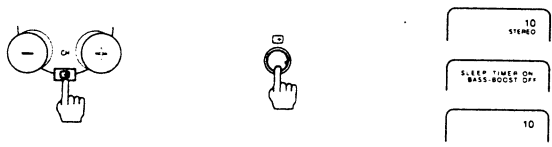


The RED light below the TV screen will disappear.

7. Displaying OSD

The 'On-Screen-Display' (OSD) allows you to see the channel number on which a TV station is stored and also the sleep-timer and bass-boost selections.

- Press the button ONCE to display the channel number, TWICE to display the sleep-timer and bass-boost and ONCE MORE to switch off the displayed information.



3. Adjusting the Volume

- To increase the volume
- Press the VOLUME + on the remote control handset or the TV control.
- To decrease the volume
- Press the VOLUME - on the remote control handset or the TV control.



NOTE : If you want to store the volume as your personal preference, press the INSTALL button on the TV set while the volume indicator bar is still on the screen.

The following functions, S/No 4 to 12 are operations with the remote control handset.

4. Muting the Sound

- Press the mute button to switch off the sound.



The sound is temporarily muted and the mute symbol is display on the screen.

- Press the mute button or the VOLUME + or - button to restore the sound.

5. Switching to 'Stand-by' mode

The TV can be put into 'Stand-by' mode in the following two ways.

A. Directly

- Press the button. The RED light below the TV screen is lighted up and the TV is put into 'Stand-by' mode.

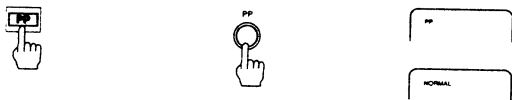


8. Personal Preference (PP)

If adjustments had been made to the picture and sound settings, it is possible to recall the stored settings either from your own or factory stored preferences.

Recalling Personal Preference (PP) and Factory Stored PersonalPreference (NORMAL)

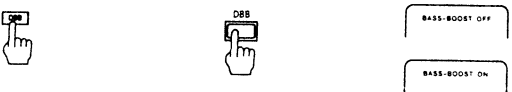
- Press the PP button ONCE to reset the picture and sound settings to the one you have stored previously. (Refer to section on Menu Operation for storing of personal preference). It is indicated by the word PP.
- Press the PP button ONCE MORE will enable you to reset the picture and sound settings to the one that had been stored by the factory previously (you cannot adjust this settings) and is indicated by the word NORMAL.



9. Dynamic Bass-Boost (DBB)

This feature enable you to enhance the bass especially for musical programmes.

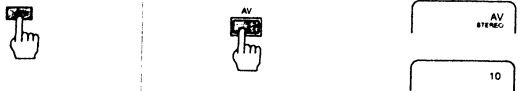
- Press the DBB button to switch on or off the amplification.



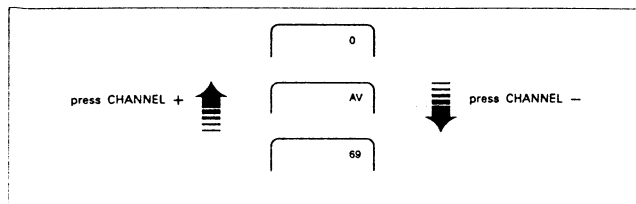
10. AV Source Selection

If your TV is connected to other peripherals equipment via the AV input, you can watch the playback programmes in the AV channel.

- Press the AV button to switch between the AV mode and the TV mode.



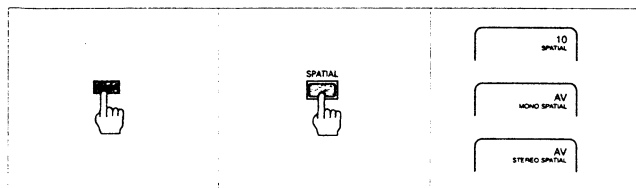
AV can also be selected via the CHANNEL + or - button by scrolling through the channel numbers (provided AV channel is not skipped).



11. Spatial Sound

This feature enable you to hear a Surround effect.

- Press the SPATIAL button to switch on or off the special acoustic sound effect.



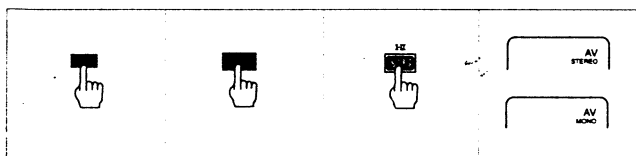
You can select either STEREO SPATIAL or MONO SPATIAL depending on which sound mode you are playing back.

12. Stereo Playback

This feature is only applicable if you are playing back STEREO programme via the AV sockets from a stereo VCR or laser disc player.

- Press the STEREO or I-II button to switch between STEREO or MONO sound.

If you are playing back mono programmes (i.e. you only connect the Video socket and the Audio L socket), you must select to the mono sound mode, if not, you will only hear the sound coming out from one of the speakers.



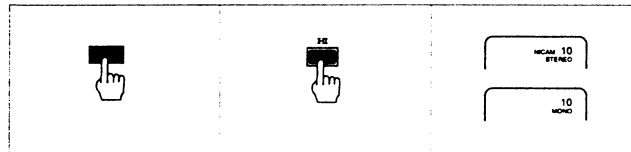
27

For models 21GX1870, 21GX1970, 25GX1880 and 25GX1980 only

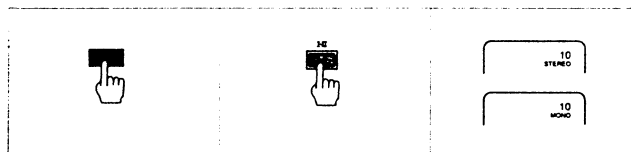
This feature is only applicable if the TV broadcast is transmitted in NICAM Stereo and 2CS Stereo sound. If not you will receive either normal-stereo or mono sound. With NICAM (Near Instantaneous Companded Audio Multiplex) sound you can experience a sound quality that is comparable to compact disc quality.

- Press the I-II button on the remote control handset to select between NICAM Stereo / 2CS Stereo and FM Sound (appear as MONO in yellow on the TV On-Screen-Display).

For NICAM Stereo



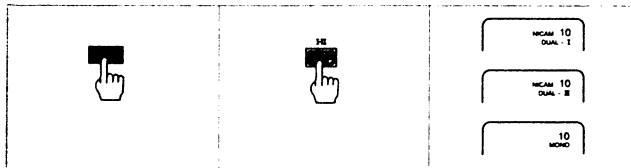
For 2CS Stereo



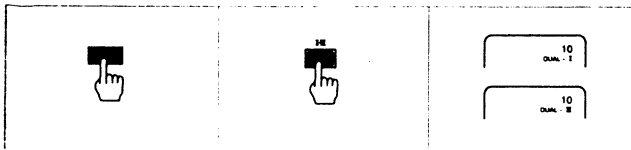
When a programme is broadcasted in two languages,

- For NICAM Stereo, press the I-II button to select either DUAL-I or DUAL-II or FM sound.
- For 2CS Stereo, press the I-II button to select either DUAL-I or DUAL-II.

For NICAM Stereo



For 2CS Stereo



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The picture and sound settings are pre-set by the factory for ideal viewing, but you can store your own personal preference for CONTRAST, BRIGHTNESS, COLOUR, HUE, SHARPNESS, BALANCE and BASS-BOOST using the 'On Screen Menu' (see Fig. 1).

- Press the MENU or MENU ON button on the remote control handset to cycle through the menu.

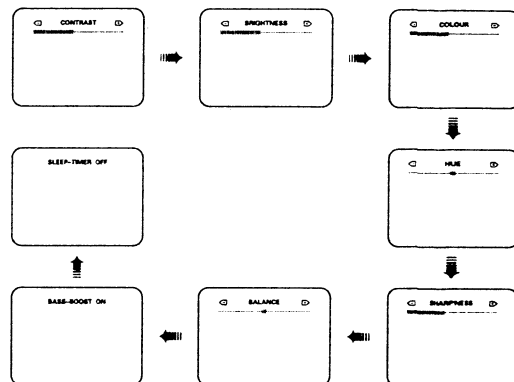
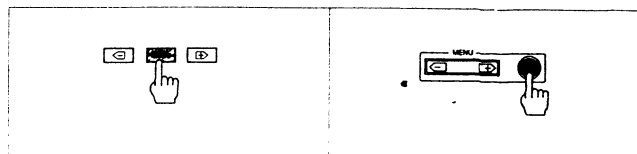
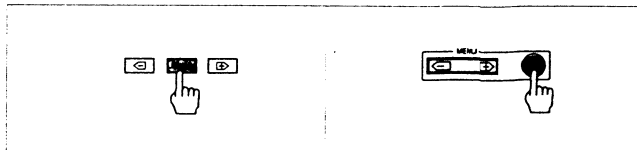


Fig. 1 : On Screen Menu

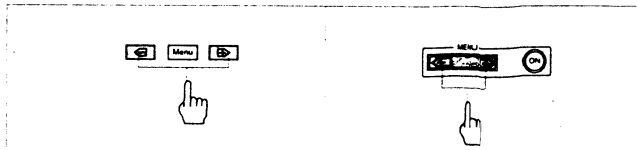
29

To store your personal preference

1



2



3



NOTE : You must perform the settings of the following selections within a time frame of about 4 seconds. Otherwise the On Screen Display will go off and you have to start the whole cycle again.

CONTRAST

- Press the MENU or MENU ON button to select CONTRAST.
- Press the MENU + or - button to increase or decrease the contrast setting.
- If you want to store this setting as your personal preference, press the INSTALL button on the TV control.

BRIGHTNESS

- Press the MENU or MENU ON button to select BRIGHTNESS.
- Press the MENU + or - button to increase or decrease the brightness setting.
- If you want to store this setting as your personal preference, press the INSTALL button on the TV control.

COLOUR

- Press the MENU or MENU ON button to select COLOUR.
- Press the MENU + or - button to increase or decrease the colour setting.
- If you want to store this setting as your personal preference, press the INSTALL button on the TV control.

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Directions for use

HUE (For NTSC System or Playback only)

- Press the MENU or MENU ON button to select HUE.
- Press the MENU + or - button to increase or decrease the colour tone setting.
- If you want to store this setting as your personal preference, press the INSTALL button on the TV control.

SHARPNESS

- Press the MENU or MENU ON button to select SHARPNESS.
- Press the MENU + or - button to decrease or increase the sharpness setting.
- If you want to store this setting as your personal preference, press the INSTALL button on the TV control.

BALANCE (For off-air stereo and AV stereo only)

- Press the MENU or MENU ON button to select BALANCE.
- Press the MENU + or - button to select right or left speaker output.
- If you want to store this setting as your personal preference, press the INSTALL button on the TV control.

BASS-BOOST

- Press the MENU or MENU ON button to select BASS-BOOST.
- Press the MENU + or - button to switch on or off the bass-boost.
- If you want to store this setting as your personal preference, press the INSTALL button on the TV control.

SLEEP-TIMER

- Press the MENU or MENU ON button to select SLEEP-TIMER.
- Press the MENU + or - button to increase or decrease the sleeptimer setting.

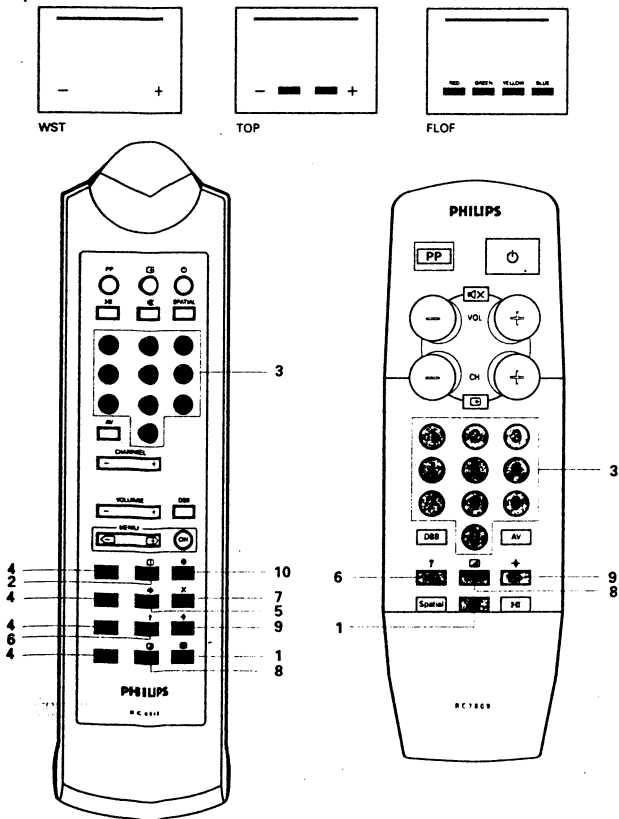
With this feature, you can select a time period after which the TV set will switch to Stand-by mode automatically. The timer can be set in steps of 15 minutes from OFF up to a maximum of 120 minutes.

NOTE : At the final minute of the selected time period, an indication bar will be shown on the screen. During the final 30 seconds, the indication bar will begin to count down on the screen informing you that the TV set is going to switch to the Stand-by mode. At the end of the countdown, the TV will switch over to the Stand-by mode.

You can switch off the SLEEP-TIMER with one of the following steps:-

- Select the SLEEP-TIMER menu and select the timer to OFF;
- Switch the TV set to Stand-by mode or
- Switch off the TV set.

Most TV channel broadcast contains teletext information. Each channel that broadcasts teletext transmits a page (index page) with information on how to use its teletext system - usually on page 100. TV programmes are sometimes subtitled for the benefit of the hard of hearing. Depending on the TV broadcast, teletext is transmitted in different systems: WST, TOP or FLOF. The system transmitted is indicated in the option line at the bottom of the screen.



For models 21GX1970, 21GX1971, 25GX1980 and 25GX1981

For models 21GX1870 and 25GX1880

1. Switching Teletext On and Off —

Select a TV channel on which teletext is being transmitted. (Check with a TV programme guide.)

- Press the button to switch on or off the Teletext display. Usually the list of contents (index) is displayed on the screen.

2. Index — (For RC 6940 only)

- Press the button to select the index page.

3. Selecting a Teletext Page — Digit 0 - 9

- Press the digit button for the required Teletext page number (3 digits).

The selected page number is displayed at the top left corner of the screen. The Teletext page counter searches until the selected page is located. Then the required page is displayed on the screen. If the counter keeps searching, it means that the page is not available for selection.

If you had made a mistake in keying the page number, you have to complete the three digit number before re-keying the correct page number.

NOTE : If an inappropriate digit button is pressed a '7' symbol will be displayed on the top left corner of the screen. To return to normal Teletext operation, just press the appropriate digit buttons.

4. To 'Fast' Select a Teletext (For RC 6940 only)

If the teletext is transmitting with FLOF (or Fast Text) format, you can make use of the corresponding colour buttons (red, green, yellow and blue) to select the respective Teletext page.

If the Teletext is transmitting with the WST format, there is a four page memory. You can select the next two sequential pages or the previous page quickly.

- Press the red button to select the previous page.
- Press the blue button to select the next sequential page.

5. Hold — (For RC 6940 only)

A selected page number sometimes contains a few sub-pages. The sub-page will automatically rotate to the next sub-page after about 20 seconds. The total numbers of sub-pages are indicated on the top right corner of the screen. (e.g. 1/4)

- Press the button to hold a sub-page to read the text at your own pace. symbol appears at the top left corner of the screen indicating that the page is on hold.
- Press the button to resume page rotation.

6. Reveal — ?

Sometimes a Teletext page contains concealed information such as in a quiz or puzzle.

- Press the ? button to reveal the concealed information.
- Press the ? button again to hide the concealed information.

7. Interrupt — X (For RC 6940 only)

To swap the Teletext and TV mode.

- Press the X button to change to the TV mode. The TV programme appears and the symbol appears at the top left corner of the screen indicating that the page is swapped.
- Press the X button again to return to the Teletext page.

8. Mix —

- Press button to superimpose the Teletext page over the TV programmes on the screen.
- Press button again to return to the Teletext page.

9. Enlarge — +

This mode enables you to view the Teletext page at double size in two pages.

- Press the + button to view the top half of the Teletext page.
- Press the + button again to view the bottom half of the Teletext page.
- Press the + button once more to return to normal size Teletext page.

10. Subcode /Time Display — (For RC 6940 only)

By adding a subcode, you can call up a sub-page and hold it.

- Enter the Teletext page number (the Teletext page must have sub-pages in it).
- Press the button.
- Enter the subpage with 4 digits : e.g. 0003 for 3/4 (third of 4 pages).
- Press the X button.

The TV programme appears and the digits 0003 will be displayed as soon as the sub-page has been found.

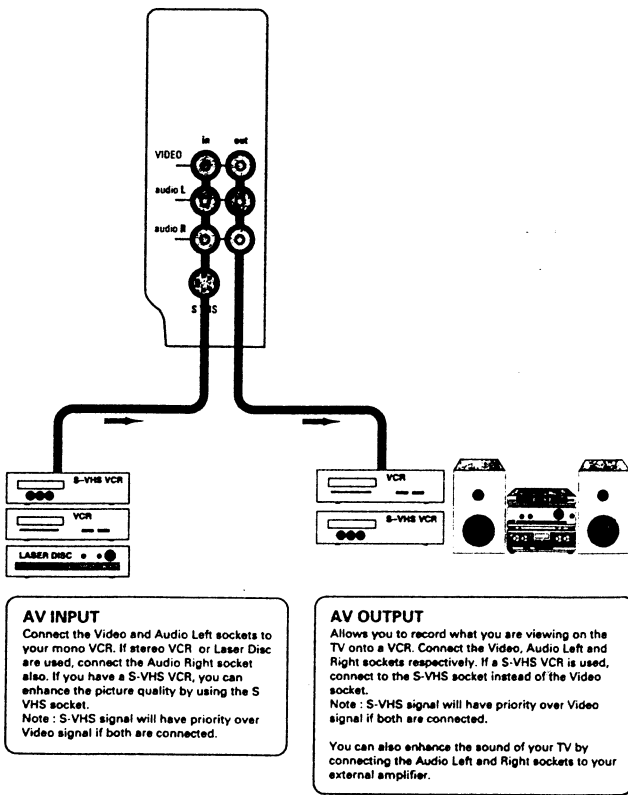
- Press the X button to switch to the Teletext mode.
- Press the button to cancel the subcode.

To display the time (only applicable to those channels that is broadcasting Teletext)

- Press the button to switch on the time display. The time is displayed on the top right hand corner of the screen.
- Press the button to switch off the time display.

Rear and antenna connections are located at the back panel of the TV set while headphone connection is located in the front. Drawings below are graphical representation of the connection options of the TV set.

Rear Connections



AV INPUT

Connect the Video and Audio Left sockets to your mono VCR. If stereo VCR or Laser Disc are used, connect the Audio Right socket also. If you have a S-VHS VCR, you can enhance the picture quality by using the S VHS socket.
Note : S-VHS signal will have priority over Video signal if both are connected.

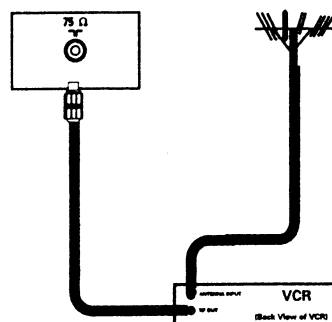
AV OUTPUT

Allows you to record what you are viewing on the TV onto a VCR. Connect the Video, Audio Left and Right sockets respectively. If a S-VHS VCR is used, connect to the S-VHS socket instead of the Video socket.
Note : S-VHS signal will have priority over Video signal if both are connected.

You can also enhance the sound of your TV by connecting the Audio Left and Right sockets to your external amplifier.

Directions for use

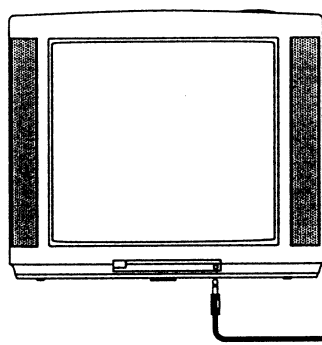
Antenna Connection



ANTENNA RF INPUT

You can connect the antenna either through the VCR or directly to the TV. Connect the antenna to the RF input of the VCR and from the VCR RF output, connect to the antenna input ("A") of your TV.

Headphone Connection



HEADPHONES SOCKET

The headphones socket is of the 3.5 mm jack type and the headphones used should be between 32 and 4000 ohms.

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To store the Video Cassette Recorder (VCR) signal on a channel number

(Please refer to section on 'Peripheral Equipment Connections' on how to connect your VCR.)

NOTE : Your VCR could already have pre-tuned TV channel numbers stored. For detailed connection and installation of the VCR, please refer to the instruction Manual of the VCR.

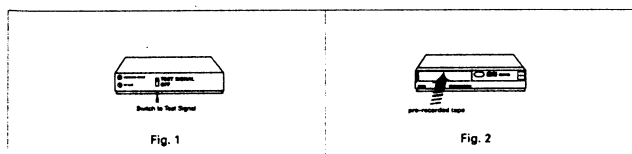
1. Switch on the TV and the VCR.

In most VCR, there is a test signal switch located at the back of the set.

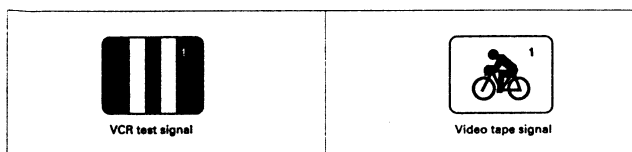
- 2a. Switch the test signal switch from the off position to the test signal position. (see Fig. 1)

If your VCR does not have the test signal switch, you can use a pre-recorded tape to simulate the video signal.

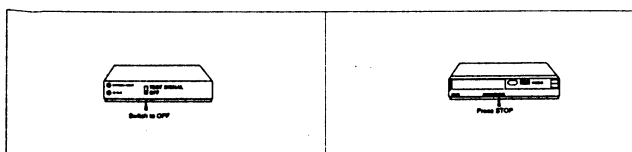
- 2b. Insert a pre-recorded tape into the VCR and press the PLAY button on the VCR. (see Fig. 2)



3. Perform a manual searching (see section under "To Store the TV Stations Manually") to search for the VCR test signal or the tape signal.
4. When the VCR test signal or the video tape signal is located, select the desired channel number to be stored. Then press the INSTALL button to store the channel number.



5. Switch back the test signal switch on the VCR to the off position (or stop the VCR if you are using the pre-recorded tape).



6. Switch off the TV and the VCR.

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ANUBIS-S

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	21"	25"
Picture Tube Size	21" (51 cm)	25" (59 cm)
Audio Output : Speakers : Woofer	2 x 2 W 4W	
Channel Numbers	VHF (I, III) and UHF with 70 pre-selections	
Tuning System	VST	
Antenna Input	75 ohm co-axial	
Connections : AV Input / Output : Headphones Socket	1 x Video, 2 x Audio Sockets, 1 x S-VHS Ø 3.5 mm	
Dimensions (Width x Height x Depth)	(576 x 440 x 484) mm	(648 x 500 x 501) mm
Weight (Approx. Only and without packaging)	24 kg	31 kg

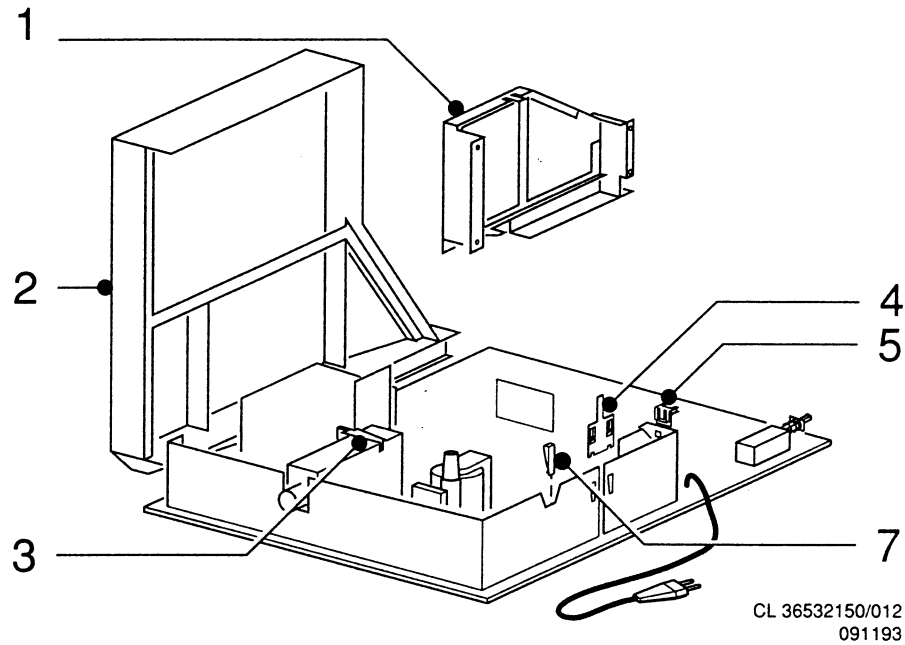
		VERSION /XX									
		52	56	57	58	59	69	75	79	93	
TV System	PAL B/G	*	*					*		*	
	PAL B/H							*			
	PAL D										*
	PAL I			*							*
	PAL/SECAM B/G/D/K		*	*	*	*	*				*
	NTSC M		*	*			*				*
	PAL 60 Playback	*	*	*	*	*	*	*	*	*	*
Operating Voltage	160 – 250 V~, 50/60 Hz	*			*						
	220 V ~, 50/60 Hz										*
	230 V~, 50/60 Hz								*		
	240 V~, 50/60 Hz							*			
	100 – 250 V~, 50/60 Hz		*	*		*	*				

NOTE : Please refer to the type plate at the rear of the TV set or the Identification Sticker on the carton box for reference to the version number for the set.

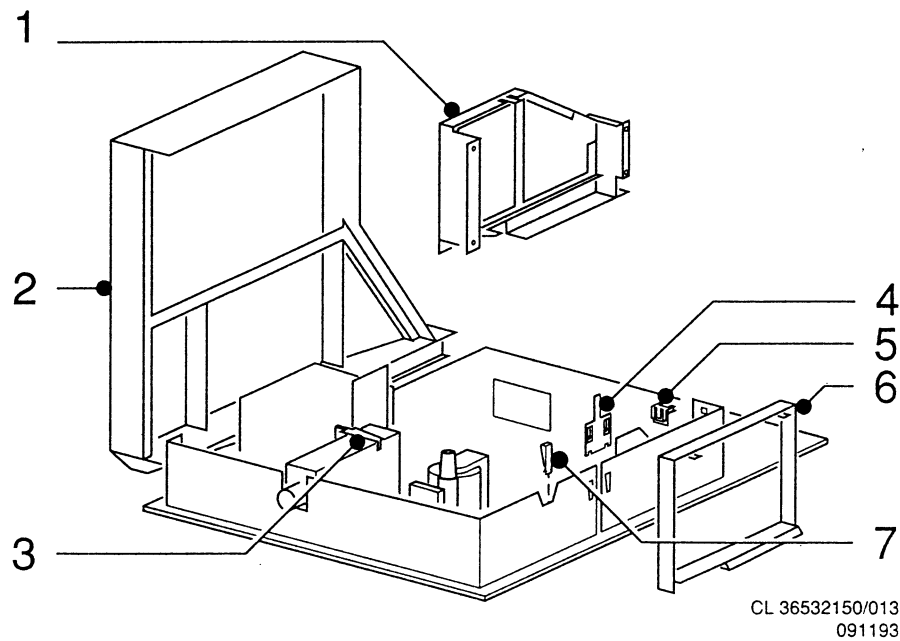
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10. Spare parts list

Chassis 21"



Chassis 25"



10. Spare parts list / Stükliste / Liste des pièces

Anubis 33

Main carrier 21 and 25" [A], [AA], [B], [C], [D]

Various

1	4822 404 31327	Bracket for TXT
2	4822 404 30359	Bracket for 2CS + I/O + ampl panel
3	4822 404 31356	Bracket for QSS panel
4	4822 404 21263	Bracket clamping heatinks
5	4822 404 31363	Mains cord relief
6	4822 404 31357	Bracket for mains input panel (25")
7A	4822 492 70289	Spring for SOPS tor 21" and line
	4822 492 62076	Spring for SOPS tor 25" and frame
A	4822 404 31362	Spring for east-west transistor
	4822 404 31358	Spring for 6529 (21")
	4822 265 20366	1 pin header 2.35 mm
	4822 267 40646	2 pins header 2.35 mm
	4822 265 20441	3 pins header
	4822 265 31101	3 pins male BTB (AU)
	4822 264 40027	3 pins male WTB
	4822 267 50217	4 pins male BTB (AU)
	4822 265 30796	4 pins header (MS)
	4822 265 30378	4 pins male WTB
	4822 265 31181	5 pins male WTB (M25)
	4822 265 30934	5 pins header (M26)
	4822 267 50591	6 pins male BTB (AU)
	4822 290 40295	7 pins male WTB
	4822 264 50148	8 pins male BTB (AU)
	4822 265 40818	8 pins male WTB
A	4822 532 61201	EHT cable spacer
	4822 276 13431	Mains switch
	4822 256 30496	Fuse holder
	4822 210 61149	Push button for 21" mains switch
1000	4822 210 10448	UV915E
1000	4822 210 10459	UV913/IEC
1015	4822 242 72197	OFWK2950M 38.9 MHz
1015	4822 242 81637	OFWK3952M 38.9 MHz
1105	4822 242 72547	5.5 MHz
1106	4822 242 72057	6.5 MHz
1204	4822 242 71207	4.5 MHz
1206	4822 242 81529	5.5 MHz
1207	4822 242 81301	6.5 MHz
1208	4822 153 30025	6.0 MHz
1208	4822 242 81529	5.5 MHz
1275	4822 242 81691	4.433619 MHz
1277	4822 242 81575	5.79500 MHz
14394	4822 071 54001	Fuse 400 mA T
2008	4822 071 55001	Fuse 400 mA T
15004	4822 070 31152	Fuse 3.15 A AT
15404	4822 071 52502	Fuse 2.5 A AT
1630	4822 242 81727	10MHz

-II-

2001	4822 126 12642	10nF 20% 50V
2007	4822 121 41856	22nF 5% 250V
2008	5322 121 42386	100nF 5% 63V
2009	4822 126 12642	10nF 20% 50V
2010	4822 124 40202	1500pF 20% 16V
2018	4822 126 12642	10nF 20% 50V
2017	4822 122 31348	120pF 2% 100V
2026	4822 121 31058	12pF 2% 100V
2027	4822 126 12642	10nF 20% 50V
2101	4822 126 33653	3.3nF 5% 50V
2102	4822 122 31072	47pF 2% 100V
2103	4822 126 12785	82pF 5% 50V
2102	4822 121 51251	820pF 1% 400V
2102	4822 124 40648	10uF 20% 63V
2112	4822 122 31072	47pF 2% 100V
2112	4822 126 12519	330pF 10%
2123	4822 126 12639	22nF 20%

2501	4822 121 70141	33nF 5% 400V
2502	4822 126 12793	2.2nF 10% 2KV
2503	4822 126 12793	2.2nF 10% 2KV
2504	4822 126 12793	2.2nF 10% 2KV
2505	4822 124 41764	100pF 20% 400V
2506	4822 124 42198	100pF 20% 400V
2505	4822 124 80855	330pF 20% 400V
2513	4822 126 12792	2.2nF 10% 500V
2520A	4822 126 12629	680pF 10% (HR)
2521A	4822 126 11254	330pF 10% 2KV
2521A	4822 126 12272	1nF 10% (HR) 2KV
2523A	4822 126 12629	680pF 10% (HR)
2525A	4822 122 40602	1nF 20% 400V
2526	4822 121 42071	3.9nF 10% 400V
2527A	4822 122 40602	1nF 20% 400V
2528A	4822 122 40602	1nF 20% 400V
2530A	4822 126 11382	1nF 10% 1KV
2530A	4822 126 12272	1nF 10% (HR) 2KV
2531	4822 124 22583	47uF 160V
2540	4822 124 42106	1500pF 20% 35V
2541A	4822 126 11382	1nF 10% 1KV
2561	5322 124 41431	22uF 20% 35V
2605	4822 124 41566	3.3uF 20% 50V
2606	4822 126 12643	22nF 20% 50V
2607	4822 122 33293	820pF 10% 50V
2608	5322 122 33256	820pF 10% 100V
2610	5322 122 33256	820pF 10% 100V
2615	5322 122 33256	820pF 10% 100V
2620	4822 124 40242	1uF 20% 63V
2621	4822 126 12643	22nF 20% 50V
2624	5322 122 33256	820pF 10% 100V
2625	5322 122 33256	820pF 10% 100V
2626	5322 122 33256	820pF 10% 100V
2627	5322 122 33256	820pF 10% 100V
2628	5322 122 33256	820pF 10% 100V
2633	4822 126 12642	10nF 20% 50V
2638	5322 122 32491	1nF 20% 100V
2640	4822 122 30045	27pF 2% 100V
2648	4822 124 40248	1uF 20% 63V
2655	5322 122 33234	220pF 10% 25V
2656	5322 121 42661	330pF 5% 63V
2682A	4822 124 40433	47uF 20% 50V
2683	5322 121 42386	100nF 5% 63V
2684	4822 124 41596	22uF 20% 50V
2687	4822 124 40242	1uF 20% 63V
2688	5322 122 32491	1nF 20% 100V
2692	4822 124 40242	1uF 20% 63V
2695	4822 124 41596	22uF 20% 50V
2700	4822 124 40763	6.8uF 20% 63V
2703A	4822 124 40433	47uF 20% 50V
2711	4822 126 12643	22nF 20% 50V
2714	5322 122 32334	220pF 10% 100V
2721	5322 122 32143	22pF 100V
2722	5322 122 32143	22pF 100V
2726	4822 122 33293	100pF 5% 50V
2727	4822 122 33293	100pF 5% 50V
2728	4822 122 33293	100pF 5% 50V
3000	4822 116 52263	2k7 5% 0.5W
3004	4822 116 52207	1k2 5% 0.5W
3005	4822 116 52207	1k2 5% 0.5W
3010A	4822 052 10109	10k 5% 0.33W
3016A	4822 116 52269	3k3 5% 0.5W
3017	4822 116 52257	2k2 5% 0.5W
3018A	4822 116 52257	2k2 5% 0.5W
3106	4822 116 52258	680uF 5% 0.5W
3113	4822 050 11002	1k 1% 0.4W
3128	4822 050 11002	1k 1% 0.4W
3198	4822 116 52234	100k 5% 0.5W
3198	4822 116 52295	47k 5% 0.5W
3198	4822 116 52291	56k 5% 0.5W
3198	4822 116 52297	68k 5% 0.5W
3198	4822 116 52303	8k2 5% 0.5W
3199	4822 116 52251	18k 5% 0.5W
3199	4822 116 52257	22k 5% 0.5W
3201	4822 050 11002	1k 1% 0.4W
3204A	4822 116 52256	2k2 5% 0.5W
3205A	4822 116 52256	2k2 5% 0.5W
3206	4822 116 52175	100k 5% 0.5W
3206	4822 116 52213	180k 5% 0.5W
3207A	4822 116 52269	3k3 5% 0.5W
3208	4822 050 11002	1k 1% 0.4W
3210	4822 116 52234	100k 5% 0.5W
3211A	4822 050 23301	330k 1% 0.6W
3213	4822 116 52234	100k 5% 0.5W
3214	4822 050 11002	1k 1% 0.4W
3225A	4822 116 52293	4k7 5% 0.5W
3236	4822 116 52233	10k 5% 0.5W
3250	4822 116 52233	10k 5% 0.5W
3251	4822 116 52233	10k 5% 0.5W
3252	4822 116 52176	100k 5% 0.5W
3253	4822 116 52176	100k 5% 0.5W
3254	4822 116 52226	560k 5% 0.5W
3255	4822 050 11002	1k 1% 0.4W
3256	4822 050 11002	1k 1% 0.4W
3257	4822 050 11002	1k 1% 0.4W
3258	4822 050 11002	1k 1% 0.4W
3259	4822 050 11002	1k 1% 0.4W
3261	4822 116 52271	33k 5% 0.5W
3262	4822 116 52269	33k 5% 0.5W
3263	4822 116 52244	15k 5% 0.5W
3264	4822 100 20166	10k 30% 10W
3265	4822 116 52207	1k2 5% 0.5W
3267	4822 116 52244	15k 5% 0.5W
3268	4822 116 52233	10k 5% 0.5W
3270	4822 116 52264	27k 5% 0.5W
3271A	4822 116 52283	4k7 5% 0.5W
3273	4822 116 52234	100k 5% 0.5W
3278A	4822 116 52283	4k7 5% 0.5W
3283	4822 050 11002	1k 1% 0.4W
3284	4822 050 11002	1k 1% 0.4W
3400A	4822 116 52256	2k2 5% 0.5W
3400A	4822 116 52283	4k7 5% 0.5W
3401	4822 116 52243	1k5 5% 0.5W
3403	4822 116 52263	2k7 5% 0.5W
3404	4822 116 52243	1k5 5% 0.5W
3405	4822 116 52182	15k 5% 0.5W
3405	4822 116 81154	25k 5% 0.5W
3406	4822 116 52244	15k 5% 0.5W
3406	4822 116 52257	22k 5% 0.5W
3407	4822 116 52264	27k 5% 0.5W
3407	4822 116 52271	33k 5% 0.5W
3408	4822 273 30397	3 pos switch 21"
3408	4822 273 30397	3 pos switch 25"
3409	4822 116 52276	3k3 5% 0.5W
3410	4822 100 11391	330k 30% 10W
3411	4822 116 81039	10k 5% 0.5W
3412	4822 116 81039	10k 5% 0.5W
3413A	4822 053 10221	220k 5% 1W
3414A	4822 116 52256	2k2 5% 0.5W
3415A	4822 116 52256	2k2 5% 0.5W
3416A	4822 117 10423	390k 5% 2W
3420	4822 100 20166	10k 30% 10W
3421	4822 116 52305	820k 5% 0.5W
3422	4822 116 52251	18k 5% 0.5W
3423	4822 116 52193	14k 5% 0.5W
3424	4822 053 10391	390k 5% 1W
3425	4822 116 52278	390k 5% 0.5W
3426	4822 116 52298	680k 5% 0.5W
3427	4822 116 52298	680k 5% 0.5W
3428	4822 116 52257	22k 5% 0.5W
3429	4822 116 52234	10k 5% 0.5W
3430	4822 116 52235	1m 5% 0.5W
3432	4822 116 52298	680k 5% 0.5W
3433A	4822 116 52298	680k 5% 0.5W
3434	4822 116 52272	330k 5% 0.5W
3435	4822 116 52263	2k7 5% 0.5W
3436	4822 116 52263	2k7 5% 0.5W
3436	4822 050 24705	47k 1% 0.6W
3437	4822 116 52296	68k 5% 0.5W
3438	4822 116 52303	8k2 5% 0.5W
3439A	4822 116 52269	3k3 5% 0.5W
3440A	4822 116 52199	68k 5% 0.5W
3441	4822 053 10223	22k 5% 1W
3442	4822 116 52289	56k 5% 0.5W
3443	4822 050 21802	18k 1% 0.6W
3444	4822 053 11562	56k 5% 2W
3445	4822 116 52195	47k 5% 0.5W
3446	4822 116 52213	180k 5% 0.5W
3448	4822 116 52216	240k 5% 0.5W
3447	4822 116 52296	68k 5% 0.5W
3448A	4822 052 10108	1k 5% 0.33W
3448A	4822 052 11108	1k 5% 0.5W
3449A	4822 050 21802	18k 1% 0.6W
3450	4822 052 22209	2k2 1% 0.6W
3451	4822 116 52271	33k 5% 0.5W
3452A	4822 052 11108	1k 5% 0.5W
3453A	4822 052 10222	2k2 5% 0.33W
3454A	4822 052 10222	2k2 5% 0.33W
3456A	4822 053 20334	330k 5% 0.25W
3460A	4822 116 52254	20k 5% 0.5W
3470A	4822 052 10828	8k2 5% 0.33W
3480A	4822 052 10108	1k 5% 0.33W
3481	4822 116 52284	47k 5% 0.5W
3482	4822 116 52284	47k 5% 0.5W
3483A	4822 116 52283	4k7 5% 0.5W
3484	4822 100 11213	22k 30% 10W
3485	4822 050 11002	1k 1% 0.4W
3486	4822 116 52291	56k 5% 0.5W
3487	4822 116 52235	1m 5% 0.5W
3488	4822 116 52234	10k 5% 0.5W
3501	4822 116 40204	30k 30%
3501	4822 116 40204	30k 30%
3502	4822 11 20403	470k 10%
3503	4822 113 80846	11k2 10% 5W
3503	4822 113 80846	11k2 10% 5W

CRT panel (narrow neck)
[E], [EE]

Various

4822 212 31347	CRT panel NN 21*
4822 212 31343	CRT panel NN 25*
4822 255 70254	Holder valve
4822 265 20366	1 pin header 2.35 mm
4822 265 30934	5 pins header
4822 265 31153	5 pins header 21" (black)

-II-

2302	4822 126 12643	22nF 20% 50V
2304	5322 122 32311	470pF 10% 100V
2304	4822 126 12519	330pF 10%
2306	4822 124 80496	4.7µF 20%
2309	4822 116 52266	33nF 5% 630V
2317	5322 122 32311	470pF 10% 100V
2317	4822 126 12519	330pF 10%
2330	5322 122 32311	470pF 10% 100V
2330	4822 126 12519	330pF 10%
2337	4822 126 12693	4.7nF 20% 2KV

-II-

2337	4822 122 10033	33nF 5% 2KV
3300*	4822 052 11101	100kΩ 5% 0.5W
3300*	4822 052 10101	100kΩ 5% 0.33W
3301	4822 116 52252	180kΩ 5% 0.5W
3301	4822 116 52266	270kΩ 5% 0.5W
3302	4822 053 12123	12kΩ 5% 3W
3303	4822 050 21502	1kΩ 1% 0.6W
3304*	4822 116 52197	560kΩ 5% 0.5W
3304	4822 116 52175	100kΩ 5% 0.5W
3305*	4822 116 52219	330kΩ 5% 0.5W
3305*	4822 116 52217	270kΩ 5% 0.5W

3306	4822 116 52246	1kΩ 5% 0.5W
3307	5322 100 11542	47kΩ 30% LIN

3308	4822 116 52175	100kΩ 5% 0.5W
3309	4822 116 52211	100kΩ 5% 0.5W
3310	4822 116 52289	56kΩ 5% 0.5W
3311	4822 116 52289	56kΩ 5% 0.5W
3312	4822 116 52289	56kΩ 5% 0.5W
3313	5322 100 11541	2kΩ 30% LIN

3314	5322 100 11541	2kΩ 30% LIN
3315	4822 053 12123	12kΩ 5% 3W

3316	4822 050 21502	1kΩ 1% 0.6W
3317*	4822 116 52197	560kΩ 5% 0.5W
3317	4822 116 52175	100kΩ 5% 0.5W
3318	4822 116 52219	330kΩ 5% 0.5W
3318*	4822 116 52217	270kΩ 5% 0.5W
3319	4822 116 52246	1kΩ 5% 0.5W
3320	5322 100 11542	47kΩ 30% LIN

3321	4822 116 52175	100kΩ 5% 0.5W
3322	4822 116 52222	390kΩ 5% 0.5W
3323	4822 116 52211	100kΩ 5% 0.5W

3324	4822 116 52243	1kΩ 5% 0.5W
3325*	4822 116 52269	3kΩ 5% 0.5W
3325*	4822 116 52266	2kΩ 5% 0.5W
3326*	4822 116 52217	270kΩ 5% 0.5W
3327	4822 116 52228	680kΩ 5% 0.5W
3328	4822 053 12123	12kΩ 5% 3W
3329	4822 050 21502	1kΩ 1% 0.6W

3330*	4822 116 52197	560kΩ 5% 0.5W
3330*	4822 116 52175	100kΩ 5% 0.5W
3331	4822 116 52175	100kΩ 5% 0.5W
3331	4822 116 52211	100kΩ 5% 0.5W

3332*	4822 116 52219	330kΩ 5% 0.5W
3332*	4822 116 52217	270kΩ 5% 0.5W
3333	4822 116 52246	1kΩ 5% 0.5W
3334	5322 100 11542	47kΩ 30% LIN

3335	4822 116 52175	100kΩ 5% 0.5W
3336	4822 050 21502	1kΩ 1% 0.6W
3337	4822 050 21502	1kΩ 1% 0.6W
3338*	4822 116 52283	47kΩ 5% 0.5W
3339*	4822 116 52283	47kΩ 5% 0.5W
3340*	4822 116 52283	47kΩ 5% 0.5W

3344*	4822 052 10188	10kΩ 5% 0.33W
3345*	4822 052 10188	10kΩ 5% 0.33W
4xxx	4822 051 10008	0kΩ 5% 0.25W

3346	4822 116 52175	100kΩ 5% 0.5W
3347	4822 116 52175	100kΩ 5% 0.5W
3348	4822 116 52175	100kΩ 5% 0.5W
3349	4822 116 52175	100kΩ 5% 0.5W
3350	4822 116 52175	100kΩ 5% 0.5W

3351	4822 116 52175	100kΩ 5% 0.5W
3352	4822 116 52175	100kΩ 5% 0.5W
3353	4822 116 52175	100kΩ 5% 0.5W
3354	4822 116 52175	100kΩ 5% 0.5W
3355	4822 116 52175	100kΩ 5% 0.5W

3356	4822 116 52175	100kΩ 5% 0.5W
3357	4822 116 52175	100kΩ 5% 0.5W
3358	4822 116 52175	100kΩ 5% 0.5W
3359	4822 116 52175	100kΩ 5% 0.5W
3360	4822 116 52175	100kΩ 5% 0.5W

3361	4822 116 52175	100kΩ 5% 0.5W
3362	4822 116 52175	100kΩ 5% 0.5W
3363	4822 116 52175	100kΩ 5% 0.5W
3364	4822 116 52175	100kΩ 5% 0.5W
3365	4822 116 52175	100kΩ 5% 0.5W

3366	4822 116 52175	100kΩ 5% 0.5W
3367	4822 116 52175	100kΩ 5% 0.5W
3368	4822 116 52175	100kΩ 5% 0.5W
3369	4822 116 52175	100kΩ 5% 0.5W
3370	4822 116 52175	100kΩ 5% 0.5W

3371	4822 116 52175	100kΩ 5% 0.5W
3372	4822 116 52175	100kΩ 5% 0.5W
3373	4822 116 52175	100kΩ 5% 0.5W
3374	4822 116 52175	100kΩ 5% 0.5W
3375	4822 116 52175	100kΩ 5% 0.5W

3376	4822 116 52175	100kΩ 5% 0.5W
3377	4822 116 52175	100kΩ 5% 0.5W
3378	4822 116 52175	100kΩ 5% 0.5W
3379	4822 116 52175	100kΩ 5% 0.5W
3380	4822 116 52175	100kΩ 5% 0.5W

3381	4822 116 52175	100kΩ 5% 0.5W
3382	4822 116 52175	100kΩ 5% 0.5W
3383	4822 116 52175	100kΩ 5% 0.5W
3384	4822 116 52175	100kΩ 5% 0.5W
3385	4822 116 52175	100kΩ 5% 0.5W

3386	4822 116 52175	100kΩ 5% 0.5W
3387	4822 116 52175	100kΩ 5% 0.5W
3388	4822 116 52175	100kΩ 5% 0.5W
3389	4822 116 52175	100kΩ 5% 0.5W
3390	4822 116 52175	100kΩ 5% 0.5W

3391	4822 116 52175	100kΩ 5% 0.5W
3392	4822 116 52175	100kΩ 5% 0.5W
3393	4822 116 52175	100kΩ 5% 0.5W
3394	4822 116 52175	100kΩ 5% 0.5W
3395	4822 116 52175	100kΩ 5% 0.5W

3396	4822 116 52175	100kΩ 5% 0.5W
3397	4822 116 52175	100kΩ 5% 0.5W
3398	4822 116 52175	100kΩ 5% 0.5W
3399	4822 116 52175	100kΩ 5% 0.5W
3400	4822 116 52175	100kΩ 5% 0.5W

3401	4822 116 52175	100kΩ 5% 0.5W
3402	4822 116 52175	100kΩ 5% 0.5W
3403	4822 116 52175	100kΩ 5% 0.5W
3404	4822 116 52175	100kΩ 5% 0.5W
3405	4822 116 52175	100kΩ 5% 0.5W

3406	4822 116 52175	100kΩ 5% 0.5W
3407	4822 116 52175	100kΩ 5% 0.5W
3408	4822 116 52175	100kΩ 5% 0.5W
3409	4822 116 52175	100kΩ 5% 0.5W
3410	4822 116 52175	100kΩ 5% 0.5W

3411	4822 116 52175	100kΩ 5% 0.5W
3412	4822 116 52175	100kΩ 5% 0.5W
3413	4822 116 52175	100kΩ 5% 0.5W
3414	4822 116 52175	100kΩ 5% 0.5W
3415	4822 116 52175	100kΩ 5% 0.5W

3416	4822 116 52175	100kΩ 5% 0.5W
3417	4822 116 52175	100kΩ 5% 0.5W
3418	4822 116 52175	100kΩ 5% 0.5W
3419	4822 116 52175	100kΩ 5% 0.5W
3420	4822 116 52175	100kΩ 5% 0.5W

3421	4822 116 52175	100kΩ 5% 0.5W
3422	4822 116 52175	100kΩ 5% 0.5W
3423	4822 116 52175	100kΩ 5% 0.5W
3424	4822 116 52175	100kΩ 5% 0.5W
3425	4822 116 52175	100kΩ 5% 0.5W

3426	4822 116 52175	100kΩ 5% 0.5W
3427	4822 116 52175	100kΩ 5% 0.5W
3428	4822 116 52175	100kΩ 5% 0.5W
3429	4822 116 52175	100kΩ 5% 0.5W
3430	4822 116 52175	100kΩ 5% 0.5W

3431	4822 116 52175	100kΩ 5% 0.5W
3432	4822 116 52175	100kΩ 5% 0.5W
3433	4822 116 52175	100kΩ 5% 0.5W
3434	4822 116 52175	100kΩ 5% 0.5W
3435	4822 116 52175	100kΩ 5% 0.5W

3436	4822 116 52175	100kΩ 5% 0.5W
3437	4822 116 52175	100kΩ 5% 0.5W
3438	4822 116 52175	100kΩ 5% 0.5W
3439	4822 116 52175	100kΩ 5% 0.5W
3440	4822 116 52175	100kΩ 5% 0.5W

3441	4822 116 52175	100kΩ 5% 0.5W
3442	4822 116 52175	100kΩ 5% 0.5W
3443	4822 116 52175	100kΩ 5% 0.5W
3444	4822 116 52175	100kΩ 5% 0.5W
3445	4822 116 52175	100kΩ 5% 0.5W

3446	4822 116 52175	100kΩ 5% 0.5W
3447	4822 116 52175	100kΩ 5% 0.5W
3448	4822 116 52175	100kΩ 5% 0.5W
3449	4822 116 52175	100kΩ 5% 0.5W
3450	4822 116 52175	100kΩ 5% 0.5W

3451	4822 116 52175	100kΩ 5% 0.5W
3452	4822 116 52175	100kΩ 5% 0.5W
3453	4822 116 52175	100kΩ 5% 0.5W
3454	4822 116 52175	100kΩ 5% 0.5W
3455	4822 116 52175	100kΩ 5% 0.5W

3456	4822 116 52175	100kΩ 5% 0.5W
3457	4822 116 52175	100kΩ 5% 0.5W
3458	4822 116 52175	100kΩ 5% 0.5W
3459	4822 116 52175	100kΩ 5% 0.5W
3460	4822 116 52175	100kΩ 5% 0.5W

3461	4822 116 52175	100kΩ 5% 0.5W
3462	4822 116 52175	100kΩ 5% 0.5W
3463	4822 116 52175	100kΩ 5% 0.5W
3464	4822 116 52175	100kΩ 5% 0.5W
3465	4822 116 52175	100kΩ 5% 0.5W

3466	4822 116 52175	100kΩ 5% 0.5W
3467	4822 116 52175	100kΩ 5% 0.5W
3468	4822 116 52175	100kΩ 5% 0.5W
3469	4822 116 52175	100kΩ 5% 0.5W
3470	4822 116 52175	100kΩ 5% 0.5W

3471	4822 116 52175	100kΩ 5% 0.5W
3472	4822 116 52175	100kΩ 5% 0.5W
3473	4822 116 52175	100kΩ 5% 0.5W
3474	4822 116 52175	100kΩ 5% 0.5W
3475	4822 116 52175	100kΩ 5% 0.5W

3476	4822 116 52175	100kΩ 5% 0.5W
3477	4822 116 52175	100kΩ 5% 0.5W
3478	4822 116 52175	100kΩ 5% 0.5W
3479	4822 116 52175	100kΩ 5% 0.5W
3480	4822 116 52175	100kΩ 5% 0.5W

3481	4822 116 52175	100kΩ 5% 0.5W
3482	4822 116 52175	100kΩ 5% 0.5W
3483	4822 116 52175	100kΩ 5% 0.5W
3484	4822 116 52175	100kΩ 5% 0.5W
3485	4822 116 52175	100kΩ 5% 0.5W

3486	4822 116 52175	100kΩ 5% 0.5W
3487	4822 116 52175	100kΩ 5% 0.5W
3488	4822 116 52175	100kΩ 5% 0.5W
3489	4822 116 52175	100kΩ 5% 0.5W
3490	4822 116 52175	100kΩ 5% 0.5W

3491	4822 116 52175	100kΩ 5% 0.5W
3492	4822 116 52175	100kΩ 5% 0.5W
3493	4822 116 52175	100kΩ 5% 0.5W
3494	4822 116 52175	100kΩ

6049	5322 137	31684	BB809
6080	4822 130	80446	LL4148
6081	4822 130	80446	LL4148
6082	4822 130	80446	LL4148
6083	4822 130	80446	LL4148
6096	4822 130	80954	LLZ-CS5V



7007	5322 130	42136	BC848C
7013	5322 130	42136	BC848C
7015	4822 130	60514	BC859B
7025	4822 209	30909	TDA8732/C1
7040	5322 130	42136	BC848C
7045	4822 209	30914	SAA7280P/M3
7050	5322 130	42136	BC848C
7055	4822 209	73236	TDA1543/N2
7060	4822 209	83163	LM833N
7070	4822 209	83163	LM833N

7075	5322 209	10576	HEF4053BP
7080	4822 130	42513	BC858C
7081	5322 130	42136	BC848C
7093	4822 130	63558	BD533

TXT interface panel [M]

Various			
4822 212 31351	TXT interface panel		
4822 264 40207	3 pins male WTB		
4822 265 30378	4 pins male WTB		
4822 267 50591	6 pins male BTB		
4822 264 50148	8 pins male BTB (AU)		



2900	4822 124	41585	2.2µF 20% 50V
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3900	4822 116	52244	15k 5% 0.5W
3901	4822 116	52283	4k7 5% 0.5W
3902	4822 116	52207	1k2 5% 0.5W
3903	4822 116	52229	750Ω 5% 0.5W
3904	4822 116	52231	820Ω 5% 0.5W
3905	4822 116	52207	1k2 5% 0.5W
3906	4822 117	10826	22Ω resonator



6900	4822 130	30621	1N4148
6901	4822 130	30621	1N4148
6905	4822 130	34382	BZX79-CBV2



7900	4822 130	40938	BC548
7901	4822 130	40941	BC558

TXT panel [N]

Various			
4822 212 31349	ECCT TXT FLOF ANZ		
4822 212 31358	ECCT TXT EAST EU ANZ		
4822 265 40469	6 pins female side BTB (AU)		
4822 265 40471	8 pins female side BTB (AU)		
1801	4822 242	73552	13.875 000 MHz
1802	4822 242	71508	6.00 MHz



2793	4822 122	32542	47nF 10% 63V
2794	4822 122	31769	18pF 2% 63V
2798	4822 122	31769	18pF 2% 63V
2799	4822 122	30909	0.2µF 5% 50V
2798	4822 122	33496	100nF 10% 63V
2800	4822 124	41584	100µF 20% 10V
2801	4822 122	32442	10nF 50V
2802	4822 122	31972	39pF 2% 63V
2803	4822 122	31972	39pF 2% 63V
2804	4822 122	31766	120pF 2% 63V
2805	4822 122	31766	120pF 2% 63V

2810	4822 122	33496	100nF 10% 63V
2811	4822 122	33496	100nF 10% 63V
2812	4822 122	33496	100nF 10% 63V
2813	4822 122	32442	10nF 50V
2814	4822 122	31773	80pF 2% 63V
2815	4822 122	33496	100nF 10% 63V
2816	4822 122	31825	27pF 2% 63V
2817	4822 122	32504	15pF 2% 63V

2818	5322 122	31647	1nF 10% 63V
2819	4822 122	31727	470pF 2% 63V
2820	4822 122	31797	22nF 10% 63V
2821	4822 122	32142	270pF 2% 63V
2822	4822 122	31765	100pF 2% 63V
2823	4822 122	31965	220pF 2% 63V
2824	4822 122	32891	68nF 10% 63V
2825	4822 124	41525	100µF 20% 25V
2826	4822 122	32504	15pF 2% 63V
2827	4822 122	32542	47nF 10% 63V

2828	4822 122	32542	47nF 10% 63V
2829	4822 124	40433	47µF 20% 25V
2830	4822 122	32542	47nF 10% 63V
2833	4822 124	41576	2.2µF 20% 50V
2845	4822 124	41584	100µF 20% 10V
2846	4822 124	40196	220µF 20% 16V
2849	4822 124	21212	15µF 20% 40V



3795	4822 051	10392	3k9 2% 0.25W
3796	4822 051	51201	120Ω 1% 0.125W
3797	4822 116	52176	10k 5% 0.5W
3798	4822 051	51201	120Ω 1% 0.125W
3800	4822 051	10103	10k 2% 0.25W
3801	4822 051	10105	1M 5% 0.25W
3802	4822 051	10101	100Ω 2% 0.25W
3803	4822 051	10101	100Ω 2% 0.25W
3804	4822 051	10101	100Ω 2% 0.25W
3805	4822 051	10122	1k2 2% 0.25W

3807	4822 051	10622	6k2 2% 0.25W
3808	4822 051	10103	10k 2% 0.25W
3809	4822 051	10132	1k3 2% 0.25W
3810	4822 051	10333	33k 2% 0.25W
3811	4822 051	10223	22k 2% 0.25W
3812	4822 051	10332	3k3 2% 0.25W
3813	4822 051	10102	1k 2% 0.25W
3814	4822 050	11002	1k 1% 0.4W
3815	4822 051	10152	1k5 2% 0.25W
3816	4822 051	10683	68k 2% 0.25W

3817	4822 051	10122	1k2 2% 0.25W
3818	4822 051	10122	1k2 2% 0.25W
3819	4822 051	10122	1k2 2% 0.25W
3820	4822 051	10122	1k2 2% 0.25W
3821	4822 051	10122	1k2 2% 0.25W
3822	4822 051	10122	1k2 2% 0.25W
3823	4822 051	10122	1k2 2% 0.25W
3824	4822 051	10332	3k3 2% 0.25W
3825	4822 051	10332	3k3 2% 0.25W
3826	4822 052	11108	1Ω 5% 0.5W

3827	4822 051	10332	3k3 2% 0.25W
3828	4822 051	10829	82Ω 2% 0.25W
3839	4822 051	10122	1k2 2% 0.25W
3840	4822 051	10122	1k2 2% 0.25W
3841	4822 051	10122	1k2 2% 0.25W
3842	4822 051	10122	1k2 2% 0.25W
3843	4822 051	10122	1k2 2% 0.25W
3845	4822 052	10689	68Ω 5% 0.33W
3846	4822 052	10689	68Ω 5% 0.33W
3847	4822 051	10829	82Ω 2% 0.25W

3848	4822 051	10181	180Ω 2% 0.25W
3849	4822 051	10102	1k 2% 0.25W
3850	4822 051	20222	2k2 5% 0.1W
3852	4822 051	20222	2k2 5% 0.1W
3999	4822 051	10182	1k8 2% 0.25W
4xxx	4822 051	10008	0Ω 5% 0.25W

5800	4822 156	20966	47 µH
5801	4822 157	52849	COIL
5803	4822 157	52825	COIL 60 µH
5814	4822 157	53608	10µH
5816	4822 157	52224	15µH
5847	4822 157	51157	3.3µH



6809	4822 130	80446	LL4148
6810	4822 130	80446	LL4148
6811	4822 130	80446	LL4148
6812	4822 130	80446	LL4148
6813	4822 130	81223	LLZ-C2V4
6814	4822 130	80446	LL4148
6847	4822 130	42489	BYD33G
6848	4822 130	80905	LLZ-F5V1



7800	4822 209	33034	PCF84C01/AP/096/F2
7800	4822 209	30281	PCF84C81A/097
7801	4822 130	61207	BC848
7802	4822 130	61207	BC848
7803	5322 130	41982	BC848B
7810	4822 209	72681	MSM5165AL-12RS
7811	5322 130	41982	BC848B
7812	5322 130	60159	BC848B
7820	4822 209	30556	SAA5243P/E/M3/H
7820	4822 209	63974	SAA5243P/H

7830	4822 209	32201	SAA5231/V8
7846	4822 130	63558	BD533
7849	5322 130	42012	BC858

2828	4822 122	32542	47nF 10% 63V
2829	4822 124	40433	47µF 20% 25V
2830	4822 122	32542	47nF 10% 63V
2833	4822 124	41576	2.2µF 20% 50V
2845	4822 124	41584	100µF 20% 10V
2846	4822 124	40196	220µF 20% 16V
2849	4822 124	21212	15µF 20% 40V

3795	4822 051	10392	3k9 2% 0.25W
3796	4822 051	51201	120Ω 1% 0.125W
3797	4822 116	52176	10k 5% 0.5W
3798	4822 051	51201	120Ω 1% 0.125W
3800	4822 051	10103	10k 2% 0.25W
3801	4822 051	10105	1M 5% 0.25W
3802	4822 051	10101	100Ω 2% 0.25W
3803	4822 051	10101	100Ω 2% 0.25W
3804	4822 051	10101	100Ω 2% 0.25W
3805	4822 051	10122	1k2 2% 0.25W

3807	4822 051	10622	6k2 2% 0.25W
3808	4822 051	10103	10k 2% 0.25W
3809	4822 051	10132	1k3 2% 0.25W
3810	4822 051	10333	33k 2% 0.25W
3811	4822 051	10223	22k 2% 0.25W
3812	4822 051	10332	3k3 2% 0.25W
3813	4822 051	10102	1k 2% 0.25W
3814	4822 050	11002	1k 1% 0.4W
3815	4822 051	10152	1k5 2% 0.25W
3816	4822 051	10683	68k 2% 0.25W

3817	4822 051	10122	1k2 2% 0.25W
3818	4822 051	10122	1k2 2% 0.25W
3819	4822 051	10122	1k2 2% 0.25W
3820	4822 051	10122	1k2 2% 0.25W
3821	4822 051	10122	1k2 2% 0.25W
3822	4822 051	10122	1k2 2% 0.25W
3823	4822 051	10122	1k2 2% 0.25W
3824	4822 051	10332	3k3 2% 0.25W
3825	4822 051	10332	3k3 2% 0.25W
3826	4822 052	11108	1Ω 5% 0.5W

3827	4822 051	10332	3k3 2% 0.25W
3828	4822 051	10829	82Ω 2% 0.25W
3839	4822 051	10122	1k2 2% 0.25W
3840	4822 051	10122	1k2 2% 0.25W
3841	4822 051	10122	1k2 2% 0.25W
3842	4822 051	10122	1k2 2% 0.25W
3843	4822 051	10122	1k2 2% 0.25W
3845	4822 052	10689	68Ω 5% 0.33W
3846	4822 052	10689	68Ω 5% 0.33W
3847	4822 051	10829	82Ω 2% 0.25W

3848	4822 051	10181	180Ω 2% 0.25W
3849	4822 051	10102	1k 2% 0.25W
3850	4822 051	20222	2k2 5% 0.1W
3852	4822 051	20222	2k2 5% 0.1W
3999	4822 051	10182	1k8 2% 0.25W
4xxx	4822 051	10008	0Ω 5% 0.25W

5800

OPTION SETTING TABLE FOR SOFTWARE NUMBER 12

Address	Option A	Value	Option B	Value
252	BTSC panel not present	0	BTSC panel present	128
	Mono set	0	AV stereo playback	64
	Not used			0
	AV selection not allowed	0	AV selection allowed	16
	No trinorma set	0	Trinorma set	8
	Not used			0
	Not used			0
	Not used			0
253	No subwoofer present	0	Subwoofer present	128
	Keys local control	0	Keys local control	64
	Protection bit can not be saved in EEPROM	0	Protection bit is saved in EEPROM (so after protection occurred, the set remains in protection until entering the Service Mode)	32
	Spatial feature is not present	0	Spatial feature is present	16
	Multi voltage is not present	0	Multi voltage is present	8
	Sharpness feature is not present	0	Sharpness feature is present	4
	Hotel mode not allowed	0	Hotel mode allowed	2
	HUE control disabled	0	HUE control enabled, for NTSC only sets	1
254	Checksum Add data on address 252 and 253 and then (if necessary) subtract 256 until the data has a value under 256. If checksum is not OK the set will use default setting.			

Table 8.4

Multi sound panel [D]

Various

4822 212 31346

Multisound panel

1 pin header 2.35 mm

4822 265 40421

6 pins male WTB

4822 165 30378

4 pins male WTB

4822 266 30276

4 pins female BTB (AU)

4822 265 40471

8 pins female BTB (AU)

1101 4822 244 72547

5.5MHz

1102 4822 244 71713

6.0MHz

1103 4822 244 72057

6.5MHz

1104 4822 244 71725

4.5MHz

2105 4822 122 33293

100pF 5% 50V

2106 5322 122 32491

1nF 20% 100V

2107 4822 124 40242

1µF 20% 63V

2108 4822 121 43714

820nF 5% 50V

2109 4822 121 51436

820nF 10% 63V

2111 4822 121 51231

200pF 1% 400V

2112 4822 126 13173

820pF 5% DC 50V

2112 4822 126 12788

33pF 5% 50V

2114 5322 122 32491

1nF 20% 100V

2115 5322 122 32491

1nF 20% 100V

2116 5322 122 32491

1nF 20% 100V

2117 5322 122 32491

1nF 20% 100V

2125 4822 126 12643

22nF 20% 50V

2126 4822 124 40248

10µF 20% 63V

2133 4822 126 12643

22nF 20% 50V

2140 5322 122 32311

470pF 10% 100V

2154 4822 126 12643

22nF 20% 50V

2160 5322 122 32491

1nF 20% 100V

3101 4822 116 52269

3k3 5% 0.5W

3102 4822 116 52289

5k6 5% 0.5W

3103 4822 116 52289

5k6 5% 0.5W

3104 4822 116 52289

5k6 5% 0.5W

3105 4822 116 52289

5k6 5% 0.5W

3106 4822 116 52244

15k 5% 0.5W

3107 4822 116 52226

560Ω 5% 0.5W

3108 4822 116 52225

510Ω 5% 0.5W

3109 4822 116 52245

150k 5% 0.5W

3110 4822 116 52245

150k 5% 0.5W

3111 4822 116 52273

3k6 5% 0.5W

3112 4822 052 10129

12k 5% 0.33W

3114 4822 116 52233

10k 5% 0.5W

3115 4822 116 52256

2k2 5% 0.5W

3116 4822 116 52283

4k7 5% 0.5W

3117 4822 116 52226

560Ω 5% 0.5W

3118 4822 116 52292

560k 5% 0.5W

3120 4822 116 52269

3k3 5% 0.5W

3150 4822 116 52125

220Ω 5% 0.5W

3151 4822 116 52224

470Ω 5% 0.5W

3152 4822 116 52219

330Ω 5% 0.5W

3152 4822 116 52224

470Ω 5% 0.5W

3153 4822 116 52219

330Ω 5% 0.5W

3154 4822 116 52226

560Ω 5% 0.5W

3155 4822 116 52291

56k 5% 0.5W

3156 4822 116 52241

15k 5% 0.5W

3160 4822 116 52245

150k 5% 0.5W

5105 4822 157 71039

120µH

5106 4822 157 71113

10µH 10%

6101 4822 130 30621

1N4148

6102 4822 130 30621

1N4148

6103 4822 130 30621

1N4148

6104 4822 130 30621

1N4148

6106 5322 130 80617

BA781

6107 5322 130 80617

BA781

6124 4822 130 34233

BZX79-CV51

6132 4822 130 34379

BZX79-C27

6133 4822 130 34379

BZX79-C27

5105 4822 157 71039

120µH

5106 4822 157 71113

10µH 10%

5105 4822 157 71039

120µH

5106 4822 157 71113

10µH 10%

5105 4822 157 71039

120µH

5106 4822 157 71113

10µH 10%

5105 4822 157 71039

120µH

5106 4822 157 71113

10µH 10%

BTSC panel [L]

Various

4822 212 31454

BTSC panel

4822 290 40295

7 pins male WTB

4822 265 40818

8 pins male WTB

2801 4822 124 40248

10µF 20% 63V

2802 4822 121 51252

470nF 5% 63V

2803 5322 121 42386

100nF 5% 63V

2804 4822 124 40248

10µF 20% 63V

2805 4822 121 42408

220nF 5% 63V

2806 4822 124 40242

1µF 20% 63V

2807 4822 124 40242

1µF 20% 63V

2808 4822 121 43526

47nF 5% 250V

2809 4822 124 40248

10µF 20% 63V

2810 4822 124 40248

10µF 20% 63V

2811 4822 124 40246

4.7µF 20% 63V

2812 4822 124 40246

4.7µF 20% 63V

2815 4822 121 42408

220nF 5% 63V

2816 4822 124 40242

1µF 20% 63V

2817 4822 124 40248

10µF 20% 63V

2818 4822 124 41643

100µF 20% 16V

2819 4822 121 41856

22nF 5% 250V

2820 4822 124 41643

100µF 20% 16V

3801 4822 116 52269

3k3 5% 0.5W

3803 4822 053 12569

56Ω 5% 3W

3804 4822 100 11213

22k 30% 1n 0.1W

3805 4822 050 21054

110k 1% 0.6W

3806 4822 100 11392

47k 30% 1n 0.1W

3807 4822 100 11213

22k 30% 1n 0.1W

3808 4822 100 11213

22k 30% 1n 0.1W

3801 4822 116 52269

3k3 5% 0.5W

3803 4822 053 12569

56Ω 5% 3W

3804 4822 100 11213

22k 30% 1n 0.1W

3805 4822 050 21054

110k 1% 0.6W

3806 4822 100 11392

47k 30% 1n 0.1W

3807 4822 100 11213

22k 30% 1n 0.1W

3808 4822 100 11213

22k 30% 1n 0.1W

TXTP panel [N]

Various

4822 212 31455

ECCT TXT panel Turkey

7801 4822 209 30946

TDA3833/V3

7814 4822 130 40948

BC548A

7801 4822 209 30946

TDA3833/V3

7814 4822 130 40948

BC548A

7801 4822 209 30946

TDA3833/V3

7814 4822 130 40948

BC548A

7801 4822 209 30946

TDA3833/V3

7814 4822 130 40948

BC548A

7801 4822 209 30946

TDA3833/V3

7814 4822 130 40948

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TDA3833/V3

7814 4822 130 40948

BC548A

7801 4822 209 30946

TDA3833/V3

7814 4822 130 40948

BC548A

7801 4822 209 30946

TDA3833/V3

7814 4822 130 40948

Anubis S

BB&CC

94.02

Service
Service
Service

Service Information



Incredible stereo

In this service information the Incredible stereo panel and all other related modifications are published (the incredible stereo panel is the same for both Anubis S BB and CC).

In the Anubis S BB (english 4822 727 20262, spanish 4822 727 20281; 21-25" Anubis S stereo) the incredible stereo feature will be added and indicated with the typenumbers -/xXT (for the future 29" this will be -/xxR). For the Anubis S BB the slightly adapted Multisound panel (diagram D) and the slightly adapted 2CS + I/O + Amplification panel (diagram H and a part of diagram J) are published in this service information.

In the Anubis S CC (english 4822 727 20288, spanish 4822 727 20289; 14-20-21" Anubis S with Interface + Amplifier panel) this incredible stereo feature can also be introduced in future. For the Anubis S CC the Interfacing + Amplification panel (diagram I) and the Multisound panel (diagram D) are already prepared for incredible stereo, so they are not published in this service information.

1. Software number A+

Anubis S BB and CC sets with production code SV03 are foreseen with a µC with software number "A+" (sets with production code SV02 and thus with a µC with software number "A" will remain in production in parallel).

Microprocessor IC7600 (diagram C) software number "A+" version 0.9 (ANUBIS-SAPHV 0.9 in the Service Mode and CTV110SAPHV 0.9 printed on the µC):

PCA84C84P/163; 4822 209 33773

Software number "A+" has the following extra features in comparison with software number A:

- * **Incredible stereo**
For selection of the incredible stereo feature, first press the I-II button to select stereo or NICAM and then press the SPATIAL button to switch on/off incredible stereo.
- * **TDSP2 NICAM via SAA7282**
This software can handle both the present SAA7280 NICAM (single system) decoder and the future SAA7282 (both single system NICAM and the so called BINICAM systems BG and I). At the introduction of this SAA7282 this will be published via a separate service information.

* New hotel mode:

Extra features of hotel mode 1 of software number "A+" in comparison with hotel mode 1 of software number "A":

- Switching "on" the set from stand-by using the PROGRAM +/- buttons will select the last viewed program number.
- When the preset maximum volume level for hotel mode is reached, the volume menu OSD will not increase any further.

Extra feature of hotel mode 2 of software number "A+" in comparison with hotel mode 2 of software number "A":

- At program numbers 30..49 in "radio mode" via OSD the word "AUDIO" will be displayed.

* Checksum:

Via one of the options at address 245 (with values 0 and 4) it is determined whether the checksum area should be calculated over the addresses 245 up to and included 253 or over the addresses 239 up to and included 253 (the protected area in the EEPROM will be adapted accordingly, so either 245..253 or 239..253).

Checksum calculation is done in the same way as for software number "A" (see service manual Anubis S BB chapter 8).

2. Software number 12

Anubis S BB and CC sets with production code SV03 and higher with software number 12 are foreseen with a µC with the incredible stereo feature.

- * For Anubis S BB IC7600 (diagram C) software number 12 version 2.8 (ANUBIS-S12HV 2.8):
P83C055-CV6108NB; 4822 209 33622
- * For Anubis S CC IC7600 (diagram C) software number 12 version 2.9 (ANUBIS-S12HV 2.9):
(this software version has a demo mode with AV-IN only)
P83C055-CV6118NB; 4822 209 52596

Selection of the incredible stereo feature can be done in 2 ways:

- * Direct via the SPATIAL button on the remote (toggle function incredible stereo/spatial effect on and off.
- * Indirect via the SOUND-MENU via control left/right.

3. Control and muting

* Control for Anubis S BB

- **Shift register (output expander) HEF4094**
For Anubis S BB an (extra) shift register IC7827 (HEF4094; diagram H) is applied only in case incredible stereo is used.

The following shift register configuration are possible:

- * 1 shift register HEF4094 (IC7132) on the Multisound panel.
- * 1 shift register HEF4094 (IC7827) on the 2CS+I/O+Ampl panel.
- * 2 shift registers HEF4094 (IC7132 and IC7827) in cascade (note the configuration table address 244 for software number "A+" and address 252 for software number "12").
In case of 2 shift registers jumper 9144 is present and 9143 and CUT1 on the Multisound panel are not present (diagram D). As a result the Os' at pin 10 IC7827 (diagram H) shifts through the data (16 bits i.s.o. 8 bits as there are 2 shift registers in cascade) to SDA pin 2 of IC7132 via connector 5A8A (diagram J) to connector 3C8A and Jumper 9144 (diagram D).

- Incredible stereo control in Anubis S BB

Switching on/off the incredible stereo feature is done via pin 6 IC7827 (HEF4094) on diagram H. Via connector A7A (diagram H) to connector A7 and 3A9 (diagram J) to 319 and the signal line "INC-SWITCH" on the incredible sound panel.

This "INC-SWITCH" signal line selects via IC7400 (HEF4053) between L and R audio signals with and without incredible stereo effect (INC-SWITCH "high" is incredible stereo feature "on", if "low" then "off").

* Control for Anubis S CC

- Shift register (output expander) HEF4094

For Anubis S CC an (extra) shift register IC7290 (HEF4094; diagram I) of the Anubis S CC service manual) is reserved.

- * 1 shift register HEF4094 (IC7132) on the Multisound panel.
- * 1 shift register HEF4094 (IC7920) on the Interfacing + Amplification panel.
- * 2 shift registers in cascade (combination of IC7132 and IC7290).

- Incredible stereo control in Anubis S CC

Provisions to switch on/off the incredible stereo panel by IC7290 on the Interfacing + Amplification panel (diagram I) are not yet foreseen.

* Muting for Anubis S BB

a. For sets with incredible stereo, so IC7827 present (with and without multisound panel)

In case of a set with incredible stereo IC7827 on the 2CS+I/O+Ampl panel is present (diagram H). Muting is done via pin 4 IC7827.

- * **FM_MONO mute**: In case the µC (via SOUND_ID or SAP_AVAL or NICAM_AVAL) knows that the Multisound or NICAM or BTSC decoder have not found a correct signal, pin 4 IC7827 becomes "low". TS7828 and so TS7829 conduct. Herewith the FM_MONO signal and the NICAM or BTSC signal will be muted.

- * **AV_OUT mute**: In case the AV-OUT cinches are present, AV-OUT muting also takes place via pin 4 IC7827. At muting pin 4 IC7827 is "low", FM_MONO will be muted and as a result AV_OUT will be muted (AV_OUT will not be muted by TS7830, A5A and A6A, as these components are not present for sets with IC7827).

b. For sets without incredible stereo (IC7827 not present) + with multisound panel

In case of a set without incredible stereo IC7827 is not mounted. Jumper 9143 and CUT1 on the Multisound panel are present, jumper 9144 is not present (diagram D).

- * **FM_MONO mute**: FM-MONO is not muted as C2823 is not present for a set without IC7827.
- * **AV_OUT mute**: Muting is done via the SOUND_ID

signal from the Multisound panel (diagram D). Via jumper 9143, 3C8A (diagram D), 5A8A (diagram J), via Os' and jumper 9827 and 9828 (diagram H). In case the Multisound panel does not detect a correct sound system, the SOUND_ID will be "low" (diagram D). By then TS7828 is driven into conduction and so TS7829 and TS7830 are conducting. Connector A5A (diagram H) is connected to A5 (diagram I) of the Anubis S BB service manual) which is directly connected to the L_MONITOR output cinch. Connector A6A (diagram H) is connected to A6 (diagram I) which is directly connected to the R_MONITOR output cinch. As a result in case of muting the L_MONITOR and R_MONITOR are shorted by TS7829 and TS7830.

c. For sets without incredible stereo (IC7827 not present) + without multisound panel

In this case muting of AV_OUT on the 2CS+I/O+Ampl panel is not needed as there is no "noise" coming from the Multisound panel.

* Muting for Anubis S CC

For sets with Multisound panel (mono and stereo versions) muting is described in the service manual of Anubis S CC (diagram I page 13)

4. Incredible stereo/sound

For stereo in television sets in general the loudspeakers are too close to each other for a good stereo effect. Some television sets make use of a spatial effect, which measures the difference between left and right and amplifies the stereo effect before giving the signals to the left and right speakers. Although it gives some improvement it is not the real widening of stereo as if the loudspeakers are more separated. For the Anubis S BB the sound system has been extended with an "electronic" stereo widening system.

With aid of his two ears a listener can detect where the sound is coming from. If e.g. the loudspeakers are more separated, than the angle between the boxes and the listener will be different and with this the phase and amplitude of both left and right sound signals to both ears. Via mathematic calculations of the phase relations from boxes to ears, frequency depending phase and amplitude can be determined for influencing the stereo effect.

The implemented "electronic" stereo widening system of the Anubis S BB will give the listener an experience of this "Incredible Stereo" as if the loudspeakers are really separated in line with the original transmitted stereo recording.

Realisation in the Anubis S BB and CC

The left signal L-IN is fed to a low-pass passive filter by R3206, C2202 and R3207, R3208, C2203, R3210 and R3209. This filter influences the phase characteristic from 500Hz to 15kHz and gives an amplitude variation rolling off at 1kHz. The right signal R-IN is fed to an active phase-shift filter (starting at 500Hz) by IC7200-4A, R3201, R3200, C2200 and R3202, C2201. This filter influences the frequency and amplitude characteristic.

The output of these 2 filters are added via input pins 9 and 10 of IC7200-4B. Finally IC7300-2A amplifies the signal to compensate the level. The adapted left signal is fed to the left amplifier.

Similar the right signal is adapted: passive R-IN low pass filter, active L-IN phase-shifting (IC7200-4C), mixing (IC7400-4D) and amplitude correction (IC7300-2B). The "Incredible Stereo" signals or the standard signals can be selected. If "INC-SWITCH" is "high", TS7001 will conduct and IC7400 (HEF4053) will select "Incredible stereo". If "INC-SWITCH" is "low", the standard signals are selected. IC7200-4B-4D will get the DC bias (7V) at pin 10 and 3 from R3501 and R3502.

Estéreo Increíble

En la presente información de servicio aparecen publicados el panel de estéreo increíble con todas sus modificaciones relacionadas (el panel de estéreo increíble para el Anubis S BB es el mismo que para el Anubis CC).

Al Anubis S BB (inglés 4822 727 20262, español 4822 8727 20281; 21-25" Anubis S estéreo) se añadirá la función de estéreo increíble y será indicada con los números de tipo -/xxT (para el futuro 29" el número será -/xxR). Para el Anubis S BB el ligeramente cambiado panel Multisound (esquema D) y el ligeramente cambiado 2CS +I/O + panel de amplificación (esquema H y parte del esquema J) están incluidos en la presente información de servicio.

En el Anubis S CC (inglés 4822 727 20288, español 4822 727 20289; 14-20-21" Anubis S con panel de interfaz y de amplificación) se puede introducir esta función de estéreo increíble también en el futuro. Para el Anubis S CC el panel de interfaz y de amplificación (esquema I) y el panel de Multisound (esquema D) están preparados ya para estéreo increíble, por consiguiente, no aparecen publicados en la presente información de servicio.

1. Número de software A+

Los aparatos Anubis S BB y CC con el código de producción SV03 están dotados de un µC con el número de software "A+" (aparatos con el código de producción SV02 y, por lo tanto, con un µC con el número de software "A" permanecerán en producción en paralelo). El microprocesador IC7600 (esquema C) con el número de software "A+", versión 0.9 (ANUBIS-SAPHV 0.9 en el Modo de Servicio y CTV110SAPHV 0.9 impreso en el µC): PCA84C84P/163; 4822 209 33773. El número de software "A+" tiene las siguientes extra funciones que no tiene el número de software A:

- * **Estéreo increíble**
Para seleccionar la función de estéreo increíble, pulse primero el botón I-II para seleccionar estéreo o NICAM y pulse el botón SPATIAL para activar/desactivar el estéreo increíble.
- * **TDSP2 NICAM a través de SAA7282**
Este software puede manejar el decodificador presente SAA7280 NICAM (sistema sencillo) y el decodificador futuro SAA7282 (tanto el sistema sencillo NICAM y los llamados sistemas BINICAM BG y I). Con la introducción de este SAA7282 se publicará una separada información de servicio.
- * **Nuevo modo hotel**
Extra funciones del modo hotel 1 del número de software "A+" y que no tiene el modo hotel 1 del número de software "A":
 - Cuando se enciende el aparato desde la posición de espera pulsando los botones PROGRAM +/-, aparecerá el último número de programa que se haya estado mirando.
 - Cuando se haya alcanzado el nivel máximo del volumen que se haya preajustado para el modo hotel, el OSD del menú del volumen no aumentará más.
- Una función extra del modo hotel 2 del número de software "A+" en comparación con el modo de hotel 2 del número de software "A":
 - * **Con los números de programa 30...49 en el "radio mode"** a través de OSD se visualizará la palabra "AUDIO".
- * **Suma de control:**
A través de una de las opciones en la dirección 245 (con

los valores 0 y 4) se determina si se debe calcular la área de la suma de control sobre las direcciones 245 hasta 253, ambas inclusive o sobre las direcciones 239 hasta 253, ambas inclusive (la área protegida en la EEPROM será adaptada conformemente, por lo tanto, 245, 253 o 239...253). El cálculo de la suma de control se realiza del mismo modo que para el número de software "A" (véase el manual de servicio Anubis S BB, capítulo 8).

2. Número de software 12

Los aparatos Anubis S BB y CC con el código de producción SV03 y códigos siguientes con el número de software 12 están dotados de un µC con la función de estéreo increíble.

- * Para el Anubis S BB IV7600 (esquema C) número de software 12, versión 2.8 (ANUBIS-S12HV 2.8): P83C055-CV61081NB; 4822 209 33622
- * Para el Anubis S CC IC7600 (esquema C) número de software 12, versión 2.9 (ANUBIS-S12HV 2.9): (esta versión de software posee un modo demo con solamente AV-IN) P83C055-CV61181NB; 4822 209 52596

La selección de la función estéreo increíble se puede hacer de dos maneras:

- * Directamente a través del botón SPATIAL en el mando a distancia (función basculante estéreo increíble/efecto espacial activado y desactivado).
- * Indirectamente a través del MENU DE SONIDO mediante el mando izquierdo y derecho.

3. Control y supresión

* Control para el Anubis S BB

- **Registro de desplazamiento (expansor de salida) HEF4094:**
Para el Anubis S BB se ha aplicado solamente un registro de desfaseamiento (extra) IC7827 (HEF4094; esquema H) cuando se usa estéreo increíble. Las siguientes configuraciones del registro de desplazamiento son posibles:
 - * 1 registro de desplazamiento HEF4094 (IC7132) en el panel Multisound
 - * 1 registro de desplazamiento HEF4094 (IC7827) en el 2CS+I/O+panel de amplificación.
 - * 2 registros de desplazamiento HEF4094 (IC7132 e IC7827) en cascada (observe la tabla de configuración dirección 244 para el número de software "A+" y la dirección 252 para el número de software "12").
- En el caso 2 registros de desplazamiento, los saltadores 9144 y 9143 están presentes y CUT1 en el panel Multisound no está presente (esquema D). A consecuencia de ello el OS en la patilla 10 del IC7827 (esquema H) desplaza por los datos (16 bits o 8 bits si hay dos registros de desplazamiento en cascada) a SDA patilla 2 del IC7132 a través del conector 5A8A (esquema J) al conector 3C8A y saltador 9144 (esquema D).
- **Control de estéreo increíble en el Anubis S BB**
La función estéreo increíble se activa o se desactiva a través de la patilla 6 del IC7827 (HEF4094) en el esquema H. A través del conector A7A (esquema H) al conector A7 y 3A9 (esquema J) a 319 y la línea de señal "INC-SWITCH" en el panel de sonido increíble. Esta línea de señal "INC-SWITCH" selecciona, a través del IC7400 (HEF4053), entre señales acústicas L o R (izquierda o derecha) con y sin efecto de estéreo increíble (si el INC-SWITCH está en alta: "high", entonces la función de estéreo increíble esta activada, si está en baja: "low", entonces está desactivada.

* Control para Anubis S CC

- **Registro de desplazamiento (expansor de salida) HEF4094:**
Para el Anubis S CC se ha aplicado un (extra) registro de desplazamiento IC7290 (HEF4094; esquema I del manual de servicio del Anubis S CC) está reservado
 - * 1 registro de desplazamiento HEF4094 (IC7132) en el panel Multisound
 - * 1 registro de desplazamiento HEF4094 (IC7920) en el panel de interfaz y de amplificación.
 - * 2 registros de desplazamiento en cascada (una combinación de IC7132 e IC7290).
- **Control de estéreo increíble en el Anubis S CC**
Aún no se han tomado provisiones para que el IC7290 pueda activar y desactivar el panel de estéreo increíble en el panel de interfaz y de amplificación (esquema I).
- * **Supresión para el Anubis S BB**
 - a. **Para aparatos con estéreo increíble, así que, el IC7827 está presente (con y sin el panel multisound)**
En caso de un aparato con estéreo increíble, el IC7827 está presente en el 2CS+I/O+panel de amplificación (esquema H). La supresión se efectúa a través de la patilla 4 IC7827.
 - * **Supresión FM-MONO:** en el caso que el µC (a través de SOUND-ID o SAP-AVAIL o NICAM-AVAIL) detecta que el Multisound o el decodificador NICAM o BTSC no han encontrado una señal correcta, la patilla 4 del IC7827 se pone en "baja". El TS7828 y, en consecuencia, el TS7829 conducen. Debido a ello la señal FM-MONO y la señal NICAM o BTSC serán suprimidas.
 - * **Supresión AV-OUT:** Si los cinches AV-OUT están presentes, la supresión AV-OUT tiene también lugar a través de la patilla 4 IC7827. Al suprimir la patilla 4 del IC7827 está en "baja", FM-MONO será suprimido y a consecuencia de ello también AV-OUT será suprimido (AV-OUT no será suprimido por TS7830, A5A y A6A, ya que estos componentes no están presentes para aparatos con IC7827).
 - b. **Para aparatos con estéreo increíble (IC7827 no presente) + con panel multisound**
En los aparatos sin estéreo increíble no está montado el IC7827. El saltador 9143 y CUT1 en el panel Multisound están presentes, el saltador 9144 no está presente (esquema D).
 - * **Supresión FM-MONO:** FM-MONO no se suprime ya que C2823 no está presente en los aparatos que no tienen IC7827.
 - * **Supresión AV-OUT:** La supresión se efectúa a través de la señal SOUND-ID del panel Multisound (esquema D), a través del saltador 9143, 3C8A (esquema D), 5A8A (esquema J), a través de Os y los saltadores 9827 y 9828 (esquema H). Cuando el panel Multisound no detecta un sistema de sonido correcto, el SOUND-ID estará en "baja" (esquema D). TS7823 habrá entrado en conducción y, por lo tanto, TS7829 y TS7830 conducen. El conector A5A (esquema H) está conectado con A5 (esquema I del manual de servicio del Anubis S BB) que está conectado directamente con el cinch de la salida L-MONITOR. El conector A6A (esquema H) está conectado con A6 (esquema I) el cual está conectado directamente con el cinch de salida R-MONITOR. Como consecuencia de ello, el L-MONITOR y el R-MONITOR están cortados por TS7829 y TS7830.
 - c. **Para aparatos sin estéreo increíble (IC7827 no presente) + sin panel multisound**
En este caso la supresión del AV-OUT en 2CS+I/O+panel de amplificación no está presente ya que no salengún "ruido" del panel Multisound.

* Supresión para el Anubis S CC

Para aparatos con panel Multisound (versiones mono y estéreo) la supresión está descrita en el manual de servicio del Anubis S CC (esquema I, página 13).

4. Sonido/estéreo increíble

Para poder escuchar bien el efecto estéreo de los aparatos de televisión, la distancia entre las altavoces suele estar demasiado corta. Algunos aparatos de televisión hacen uso de un efecto espacial, que mide la diferencia entre el canal izquierdo y derecho y amplifica el efecto estéreo antes de transmitir las señales a los altavoces izquierdo y derecho. Aunque es una mejora, sin embargo no es realmente la ampliación de estéreo como si las altavoces estuvieran más separadas.

Para el Anubis S BB el excelente sistema acústico ha sido ampliado con un sistema "electrónico" de amplificación del estéreo.

Mediante sus dos oídos el oyente puede detectar de donde proviene el sonido. Si, por ejemplo, la distancia entre los dos altavoces fuera más grande, el ángulo entre las altavoces y el oyente sería diferente y con ello también las fases y la amplitud de las señales acústicas izquierdas y derechas a ambas oídos. Haciendo cálculos aritméticos de las relaciones de fases de los altavoces a los oídos, es posible determinar la fase y amplitud que depende de la frecuencia para influenciar en el efecto estereofónico.

El sistema "electrónico" de amplificación del estéreo introducido en el Anubis S BB da al oyente una experiencia de este "Estéreo Increíble" como si los altavoces estuvieran realmente separados de acuerdo con la grabación estereofónica originalmente transmitida.

Realización en el Anubis S BB y CC

La señal izquierda L-IN es alimentada a un filtro pasivo de paso bajo por R3206, C2202 y R3207, R3208, C2203, R3210 y R3209. Este filtro influye en la característica de fase de 500Hz a 15kHz, dando una variación de amplitud cortando a 1kHz. La señal derecha R-IN es alimentada a un filtro activo de desfaseamiento (comenzando a 500Hz), por el IC 7200-4A, R3201, R3200, C2200 y R3202, C2201. Este filtro influye en la característica de la frecuencia y de la amplitud. La salida de estos 2 filtros es añadida a las patillas 9 y 10 del IC7200-4B. Finalmente, el IC7300-2A amplifica la señal para compensar el nivel. La señal izquierda adaptada es alimentada al amplificador izquierdo.

La señal derecha se adapta similarmente: R-IN pasivo filtro de paso bajo, L-IN activo desplazamiento de fase (IC7200-4C), mezclando (IC7400-4D) y corrección de amplitud (IC7300-2B). Se puede seleccionar las señales "Estéreo increíble" o las señales estándar. Si "INC-SWITCH" está en "alta", TS7001 conducirá y el IC7400 (HEF4053) seleccionará "Estéreo increíble". Si "INC Switch" está en "baja", se seleccionan las señales estándar. El IC7200-4B-4D tomará la polarización de corriente continua (7V) en las patillas 10 y 3 de R3501 y R3502.

Option setting table for software number "A+" (so "A+"!!!)
and IC(only for VST sets)

Address	Option A	Value	Option B	Value
239 ^{*)}	Maximum error limit values for the SAA7282 (TDSD2)			80
240 ^{*)}	Minimum error limit values for the SAA7282 (TDSD2)			20
241 ^{*)}	Not used			255
242 ^{*)}	Not used			255
243 ^{*)}	Not used			255
244 ^{*)}	Not used			0
	Not used			0
	Not used			0
	Remote STORE key allowed	0	Remote STORE key not allowed	16
	If no Anubis S CC sets or Anubis S CC set without Multisound panel	0	For Anubis S CC sets with Multisound panel (muting and spatial via IC7132)	8
	Set with no HEF4094 or only one HEF4094 shift register - for Anubis S BB either IC7132 or IC7827 (only one) - for Anubis S CC either IC7132 or IC7827 (only one)	0	Set with two HEF4094 shift registers - for Anubis S BB IC7132 and IC7827 present (both) - for Anubis S CC IC7132 and IC7290 present (both)	4
	Incredible stereo panel present	0	Incredible stereo panel not present	2
	SAA7282 (TDSD2) used as single system	0	SAA7282 (TDSD2) used as dual system (BINICAM)	1
245	2CS stereo decoder (IC7800) present	0	2CS stereo decoder (IC7800) not present	128
	AV stereo playback present	0	AV uses mono only	64
	No AV selectable	0	AV present	32
	No spatial sound possible	0	Spatial sound selectable	16
	No hue control possible	0	Hue control possible	8
	Checksum area to be calculated from address 245 up to and included 253 (also protected EEPROM area by then from 245 up to and included 253)	0	Checksum area to be calculated from address 239 up to and included 253 (also protected EEPROM area by then from 239 up to and included 253) ^{*)}	4
	NICAM uses SAA7282 (TDSD2)	0	NICAM uses TDA7280 (TDSD1)	2
	UV973 tuner is used (bandswitch signals for VHF1 and VHF3 are swapped)	0	"Normal" bandswitch signals	1
246	No hotel mode possible	0	Hotel mode can be enabled	128
	No UHF tuning possible	0	UHF band allowed	64
	No VHF3 tuning possible	0	VHF3 band allowed	32
	No VHF1 tuning possible	0	VHF1 band allowed	16
	Not used			0
	Multisound panel not present (no sound standard selection)	0	Multisound panel present (auto, M, B/G, I, D/K sound selection possible)	4
	Not used			0
	No colour system selection	0	Auto, SECAM, PAL/(NTSC)	1
247	NICAM panel not present, multisound panel not present			40
	NICAM panel not present, multisound panel present			41
	NICAM panel present, multisound panel not present			168
	NICAM panel present, multisound panel present			169
248	UV 913 / UV 973 (VST)			191
	UV 915 (VST)			42
	UV 953 (VST)			162
249	UV 913 / UV 953 / UV 973 (VST)			93
	UV 915 (VST)			73
250	UV 913 / UV 953 / UV 973 (VST)			25
	UV 915 (VST) 0251 UV 913 / UV 953 / UV 973 (VST)			134
	UV 915 (VST)			129
252	All VST tuners			0
253	UV 913 / UV 915 / UV 973 (VST)			224
	UV 953 (VST)			225
254	Checksum (see for calculation of the checksum service manual chapter 8) Add data from addresses 245 up to and included 253 or addresses 239 up to and included 253 ^{*)} . Then (if necessary) subtract 256 until the data has a value under 256. If checksum is not OK the set will use default setting.			



Option setting table for software number 12
(only for PLL sets)

Address	Option A	Value	Option B	Value
252	BTSC panel not present	0	BTSC panel present	128
	Mono set	0	AV stereo playback	64
	No HEF4094 present - for Anubis S BB IC7827 not present - for Anubis S CC IC7290 not present	0	a HEF4094 shift register present - for Anubis S BB IC7827 present - for Anubis S CC IC7290 present	32
	AV selection not allowed	0	AV selection allowed	16
	No trinorma set	0	Trinorma set	8
	No incredible stereo panel present	0	Incredible stereo panel present	4
	Not used			0
	Not used			0
253	No subwoofer present	0	Subwoofer present	128
	5 keys local control	0	8 keys local control	64
	Protection bit can not be saved in EEPROM	0	Protection bit is saved in EEPROM (so after protection occurred, the set remains in protection until entering the Service Mode)	32
	Spatial feature is not present	0	Spatial feature is present	16
	Multi voltage is not present	0	Multi voltage is present	8
	Sharpness feature is not present	0	Sharpness feature is present	4
	Hotel mode not allowed	0	Hotel mode allowed	2
	HUE control disabled	0	HUE control enabled; NTSC only sets	1
254	Checksum (see for calculation of the checksum service manual chapter 8) Add data on address 252 and 253 and then (if necessary) subtract 256 until the data has a value under 256. If checksum is not OK the set will use default setting.			



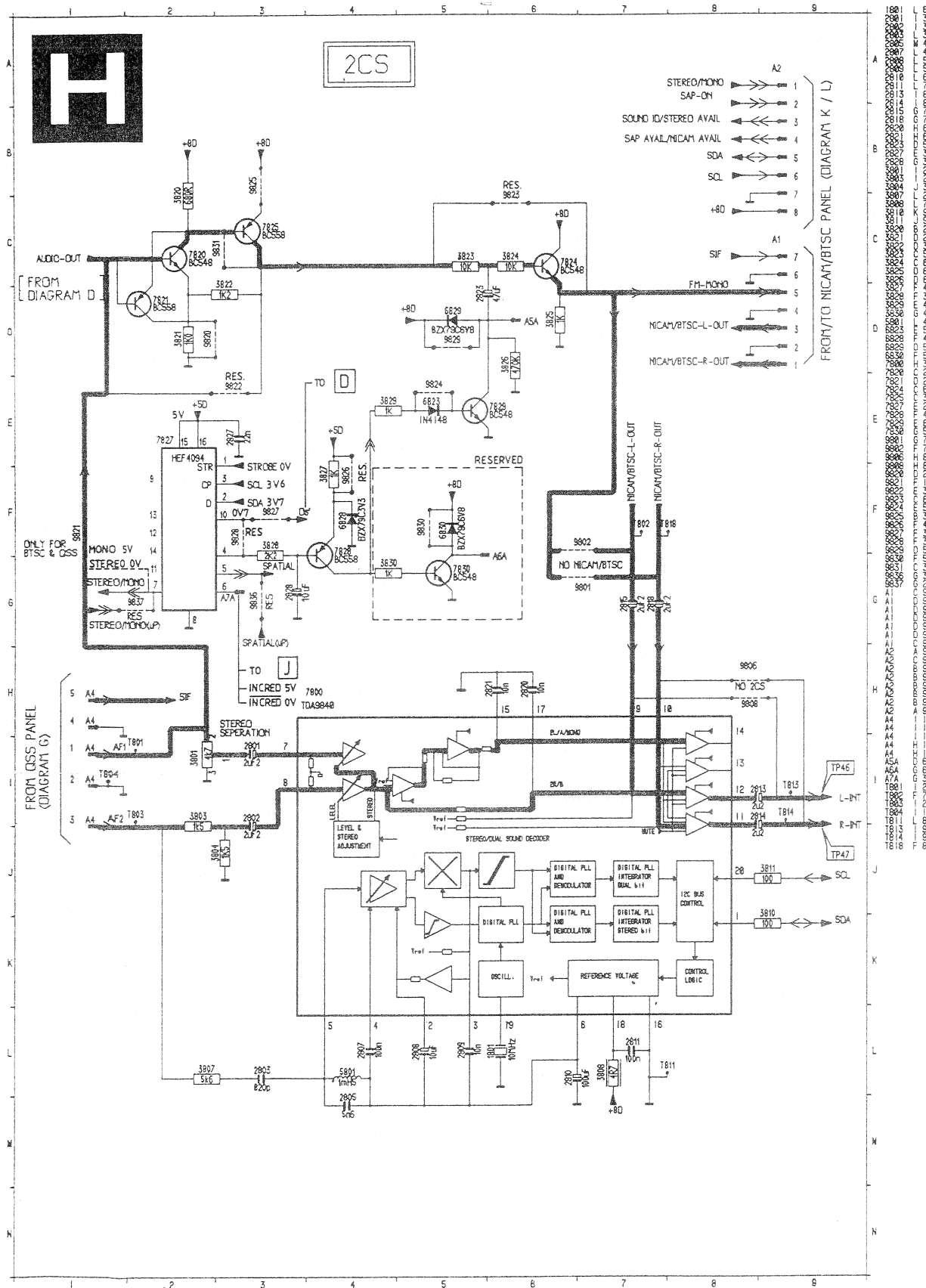
Tabla de ajuste de opciones para el número de software 12
(Solamente para aparatos PLL)

Dirección	Opción A	Valor	Opción B	Valor
252	Panel BTSC no presente	0	Panel BTSC presente	128
	Aparato mono	0	Reproducción AV estéreo	64
	HEF 4094 no presente - para anubis S BB IC7827 no presente - para Anubis S CC IC7290 no presente	0	Registro de desfaseamiento HEF4094 presente - para Anubis S BB IC7827 presente - para Anubis S CC IC7290 presente	32
	Selección AV no permitido	0	Selección AV permitido	16
	No aparato norma	0	Aparato norma	8
	Panel estéreo increíble no presente	0	Panel estéreo increíble presente	4
	No usado			0
	No usado			0
253	No 'subwoofer' (altavoz de tonos bajos) presente	0	'Subwoofer' presente	128
	Control local 5 teclas	0	Control local 8 teclas	64
	Bit de protección no puede ser almacenado en EEPROM	0	Bit de protección está almacenado en EEPROM (a saber: una vez realizada la protección, el equipo permanece en protección hasta que entra en el Modo de Servicio)	32
	Función espacial no presente	0	Función espacial presente	16
	Multi tensión no presente	0	Multi tensión presente	8
	Función de nitidez no presente	0	Función de nitidez presente	4
	Modo hotel no permitido	0	Modo hotel permitido	2
	Control HUE desactivado	0	Control HUE activado; NTSC solamente activa	1
254	Suma de control: se suman (véase para esta suma el manual de servicio, capítulo 8) los datos a las direcciones 252 y 253 y luego (si fuese necesario) se resta 256 hasta que el dato tenga un valor inferior a 256. Si la suma de control no está correcta, el equipo utilizará los valores por omisión.			

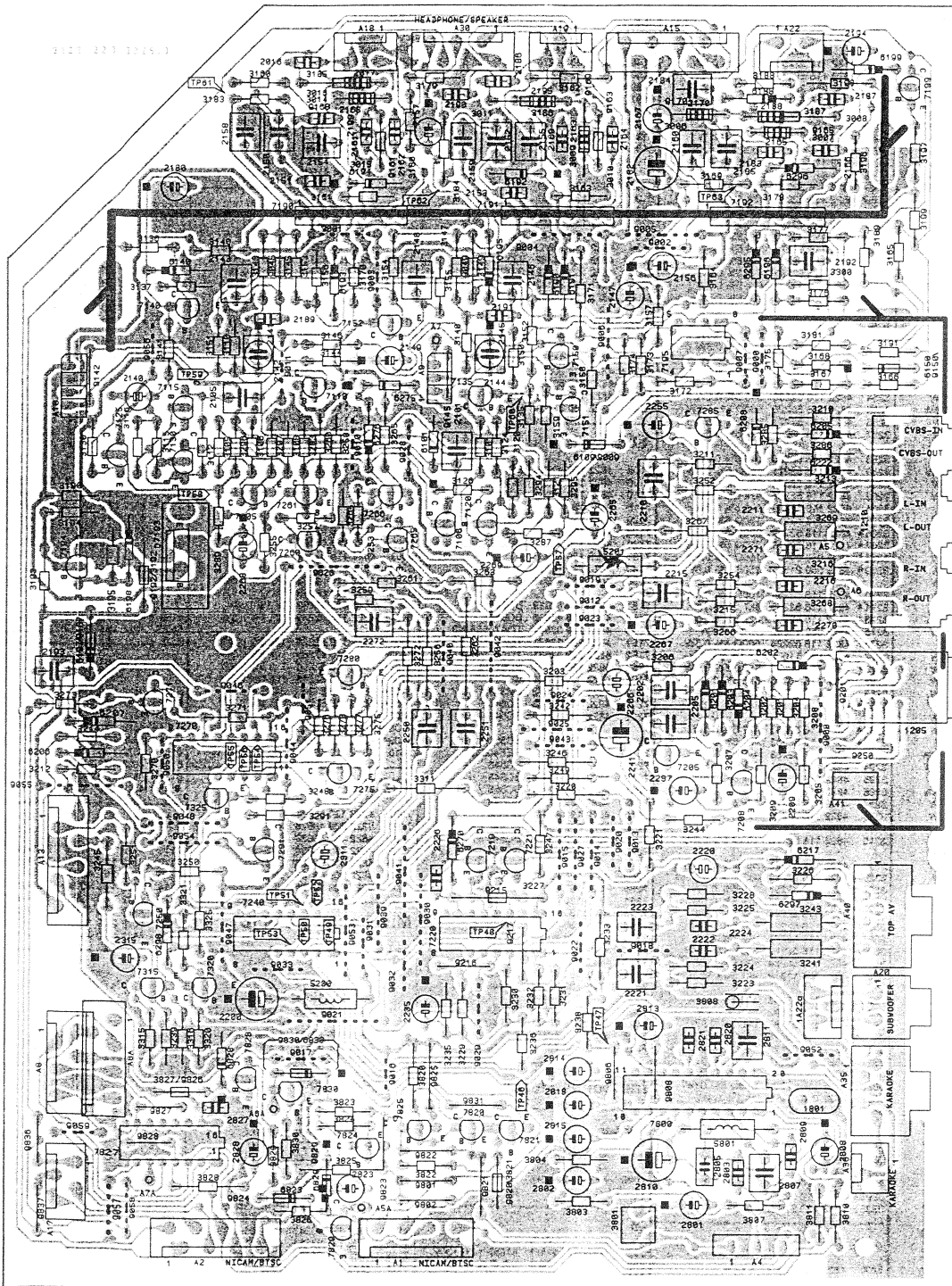
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2200	C4	7300	C1
2201	C4	7400	C3
2202	B5	9001	C3
2203	B5	9002	C4
2204	C5	9003	B4
2205	D4	9004	B3
2300	C2	9005	C3
2301	B1	9204	C5
2302	D1	9300	C1
2304	D2	9301	C2
2305	D2	9302	B1
2400	C5	9304	D2
2401	C5	9404	C2
2402	A2	9500	A5
2403	B1	9503	B3
2404	B2	9504	B3
2500	B4	19	A4
2502	B6		
2503	B3		
2504	B3		
3001	B4		
3002	B4		
3200	D3		
3201	D4		
3202	D4		
3203	D4		
3204	D5		
3205	D1		
3206	B4		
3207	B4		
3208	D5		
3209	D5		
3210	C5		
3300	C1		
3301	C1		
3302	D1		
3303	C2		
3304	C2		
3305	D2		
3400	C5		
3401	B4		
3402	B4		
3403	C4		
3404	C4		
3405	C3		
3406	B2		
3407	B2		
3408	A2		
3409	A2		
3410	B2		
3500	A5		
3501	B5		
3502	B5		
6500	A5		
7001	B4		
7200	C4		

2 CS + I/O part (Anubis S BB)



2 CS + I/O + Amplification part (Anubis S BB)

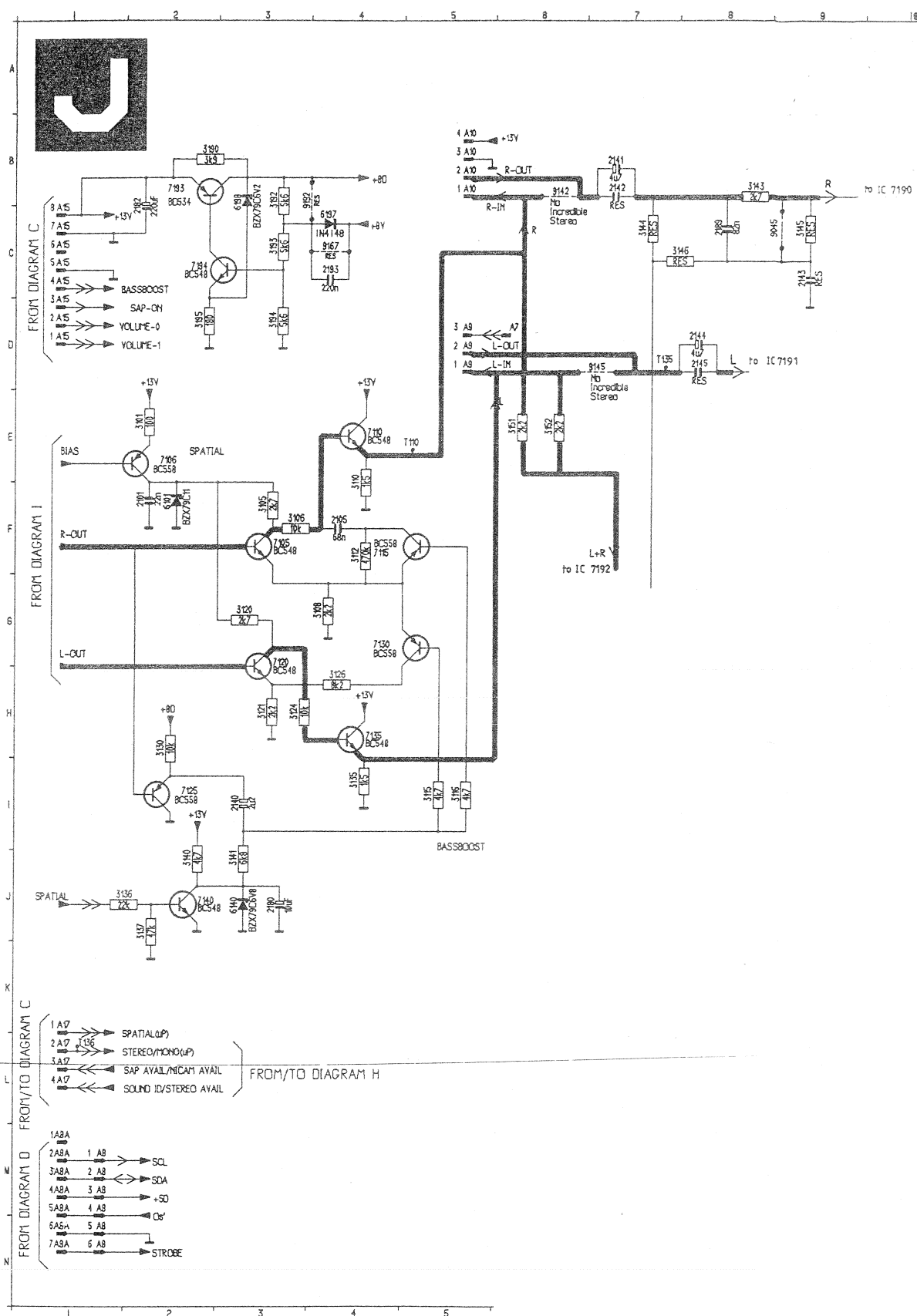


12	1205 A6	3136 H11	3273 I6	7825 F1
	1210 A8	3137 H10	3275 F6	7827 H1
	1801 B3	3140 H11	3276 G6	7828 G3
	2016 G12	3141 H10	3277 F6	7829 F1
	2017 F12	3143 G10	3278 F6	7830 G2
	2101 E9	3144 G9	3283 G9	9000 B10
	2105 G9	3145 G10	3285 B9	9001 F11
	2140 H9	3146 G10	3286 B9	9002 C11
	2141 G10	3147 E10	3287 E8	9003 F10
	2142 G10	3148 E10	3288 H8	9004 D11
	2143 G10	3149 E10	3291 G5	9005 C11
	2144 E10	3150 E10	3294 E8	9006 H5
	2145 E10	3151 H10	3295 D8	9007 C10
	2146 E10	3152 E10	3296 G9	9008 B6
	2147 D10	3153 G10	3297 G9	9009 D9
	2148 F10	3154 F10	3300 B10	9010 F9
	2149 F9	3155 E10	3311 F5	9011 G9
	2150 G12	3156 G10	3315 H3	9012 D7
	2151 H11	3157 C10	3318 H3	9013 D5
	2152 E12	3158 D9	3320 H3	9014 D6
	2153 E11	3159 D9	3321 H4	9015 D6
	2154 G12	3160 G12	3325 H4	9016 F3
	2155 E12	3161 F11	3597 I12	9017 G3
	2156 G10	3162 D11	3598 I12	9018 C1
	2157 F12	3163 D11	3599 I11	9019 D7
	2158 G12	3164 C10	3601 C1	9020 D5
	2159 D12	3165 A11	3603 C1	9021 F1
	2160 C12	3166 A9	3604 D2	9022 D4
	2161 F12	3167 B9	3607 B1	9023 D7
	2162 F12	3168 B9	3608 B3	9024 D6
	2163 G12	3169 C11	3610 B1	9025 D6
	2164 D12	3170 F11	3611 B1	9026 F4
	2165 B12	3171 D10	3620 F3	9027 D5
	2166 B12	3172 C9	3621 E2	9028 F9
	2167 F12	3173 C9	3622 F2	9029 E3
	2168 F12	3174 D9	3623 F2	9030 F2
	2169 D12	3175 B10	3624 F2	9031 F4
	2170 C12	3176 B10	3625 F2	9032 F4
	2180 H11	3177 H11	3626 G1	9033 F4
	2181 G12	3178 H11	3627 H2	9034 F4
	2183 B12	3179 F12	3628 H1	9040 E7
	2184 C12	3180 F12	3629 G2	9041 F5
	2185 C12	3181 G10	3630 G2	9042 E7
	2186 C12	3182 H12	3631 F3	9043 D6
	2187 B12	3183 E12	3632 D8	9044 G6
	2188 B12	3184 E12	3633 C2	9045 G10
	2189 G10	3185 F12	3634 F2	9046 H5
	2190 E12	3186 B12	3635 D9	9047 H4
	2191 E10	3187 B12	3636 H10	9048 H5
	2192 B10	3188 A10	3637 B10	9049 E10
	2193 B6	3189 A10	3638 B12	9050 H6
	2194 A12	3191 A10	3639 D10	9051 G6
	2195 D12	3192 H7	3640 D10	9052 B3
	2199 G12	3193 I7	3641 E11	9053 F4
	2200 C3	3194 H12	3642 F10	9054 H5
	2202 C6	3195 B8	3643 F11	9055 I5
	2205 C6	3196 A11	3644 E10	9056 H10
	2206 D6	3197 A12	3645 B10	9057 H1
	2207 C3	3198 B12	3646 I7	9058 I1
	2210 C8	3199 A11	3647 H8	9059 I2
	2211 B8	3201 B6	3648 A12	9060 I9
	2215 C7	3202 B6	3649 C6	9061 C5
	2216 E7	3203 C6	3650 B7	9062 B7
	2220 C5	3204 B6	3651 C6	9063 D12
	2221 D4	3205 B5	3652 C5	9064 C5
	2222 C4	3206 C7	3653 B5	9065 B12
	2223 C4	3207 C6	3654 B6	9066 F12
	2226 E4	3208 B5	3655 B9	9067 D12
	2235 F3	3210 B9	3656 B5	9068 C12
	2241 D5	3211 C9	3657 B8	9069 F12
	2250 F6	3212 B6	3658 E5	9070 E4
	2251 E5	3213 B8	3659 F9	9071 E4
	2255 C9	3214 B6	3660 F9	9072 E4
	2256 D8	3215 C7	3661 B10	9073 E4
	2267 C7	3216 B7	3662 B10	9074 E4
	2268 G8	3220 D5	3663 B10	9075 E4
	2269 G8	3221 C5	3664 B10	9076 E4
	2270 G8	3222 C5	3665 B10	9077 E4
	2271 B9	3223 C4	3666 B10	9078 E4
	2272 F7	3224 C4	3667 B10	9079 E4
	2273 C5	3225 C4	3668 B10	9080 E4
	2311 G5	3226 C4	3669 B10	9081 E4
	2315 I4	3227 C4	3670 B10	9082 E4
	2801 C1	3228 C4	3671 B10	9083 E4
	2802 C2	3229 C4	3672 B10	9084 E4
	2803 C2	3230 C3	3673 B10	9085 E4
	2805 C2	3231 D3	3674 B10	9086 E4
	2807 B2	3232 D3	3675 B10	9087 E4
	2808 B2	3233 D4	3676 B10	9088 E4
	2809 B2	3234 C3	3677 B10	9089 E4
	2810 C2	3235 C3	3678 B10	9090 E4
	2811 B3	3236 C3	3679 B10	9091 E4
	2813 D2	3237 B4	3680 B10	9092 E4
	2820 C3	3238 C5	3681 B10	9093 E4
	2821 C3	3239 C5	3682 B10	9094 E4
	2823 F1	3240 C5	3683 B10	9095 E4
	2827 H2	3241 C5	3684 B10	9096 E4
	2828 G2	3242 C5	3685 B10	9097 E4
	3006 C12	3243 C5	3686 B10	9098 E4
	3007 B12	3244 C5	3687 B10	9099 E4
	3008 B12	3245 C5	3688 B10	9100 E4
	3009 B12	3246 C5	3689 B10	9101 E4
	3010 D12	3247 C5	3690 B10	9102 E4
	3011 E12	3248 C5	3691 B10	9103 E4
	3014 F12	3249 C5	3692 B10	9104 E4
	3015 F12	3250 C5	3693 B10	9105 E4
	3016 F12	3251 C5	3694 B10	9106 E4
	3101 E9	3252 C5	3695 B10	9107 E4
	3105 H9	3253 C5	3696 B10	9108 E4
	3106 G9	3254 C5	3697 B10	9109 E4
	3108 G9	3255 C5	3698 B10	9110 E4
	3110 G10	3256 C5	3699 B10	9111 E4
	3112 D8	3257 C5	3700 B10	9112 E4
	3115 H9	3258 C5	3701 B10	9113 E4
	3116 H9	3259 C5	3702 B10	9114 E4
	3120 E8	3260 C5	3703 B10	9115 E4
	3121 D8	3261 C5	3704 B10	9116 E4
	3124 E9	3262 C5	3705 B10	9117 E4
	3126 E8	3263 C5	3706 B10	9118 E4
	3130 E9	3264 C5	3707 B10	9119 E4
	3135 E9	3265 C5	3708 B10	9120 E4

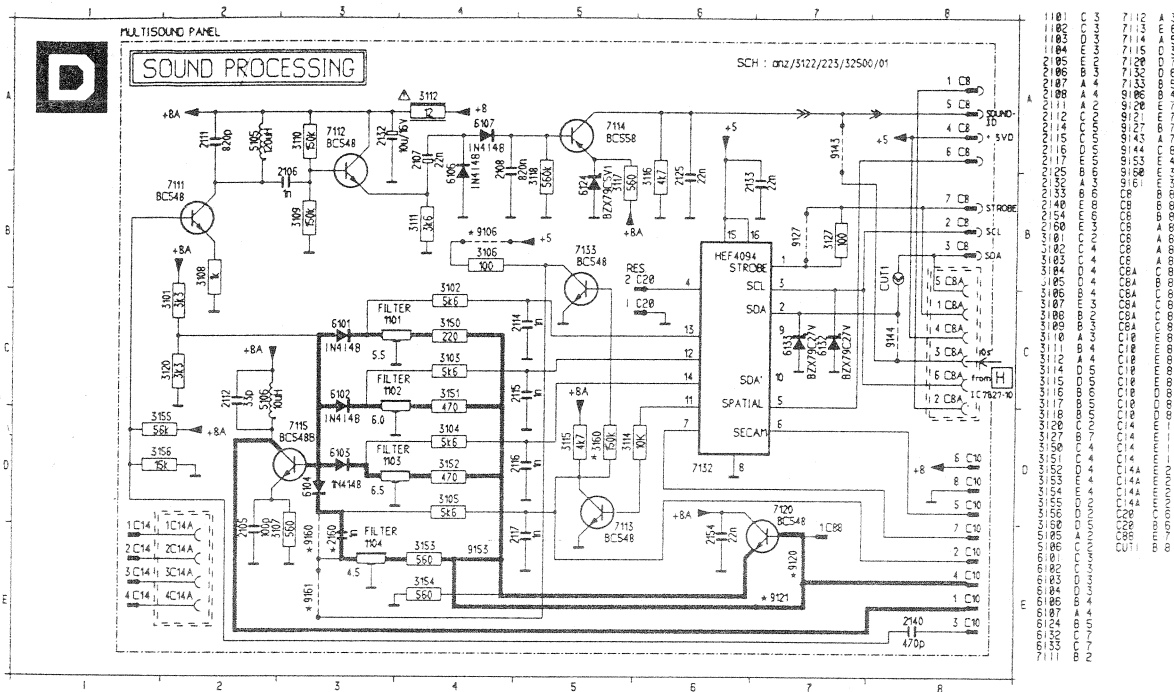
Spare parts list / Listado de Repuestos

Microprocessors			2270 5322 122 32491 1nF 20% 100V 2271 5322 122 32491 1nF 20% 100V 2267 4822 124 40248 10uF 20% 63V 2311 4822 124 80854 1uF 20% 50V 2315 4822 124 40248 10uF 20% 63V	3209-A 4822 116 52256 2k2 5% 0.5W		2204 4822 124 41596 22uF 20% 50V 2205 4822 126 12642 10nF 20% 50V 2300 4822 126 12642 10nF 20% 50V 2301 4822 124 41596 22uF 20% 50V 2314 4822 121 51256 39nF 10% 50V 2304 4822 124 41596 22uF 20% 50V	2114 5322 122 32491 1nF 20% 100V 2115 5322 122 32491 1nF 20% 100V
7600 4822 209 33773 PCA84C844P/163 (number A+ V0.9)	2801 4822 124 41576 2.2uF 20% 50V 2802 4822 124 41576 2.2uF 20% 50V 2803 5322 122 32356 820pF 10% 100V 2805 4822 121 51372 50nF 5% 250V 2807 5322 121 42386 100nF 5% 63V 2808 4822 124 40248 10uF 20% 63V 2809 4822 121 41657 10nF 5% 250V 2810 4822 124 41643 100uF 20% 16V	3210 4822 116 52201 750 5% 0.5W 3211 4822 116 52258 220k 5% 0.5W 3212 4822 116 52175 1000 5% 0.5W 3213-A 4822 050 22702 2K7 1% 0.6W 3214 4822 116 52175 1000 5% 0.5W 3215 4822 116 52258 220k 5% 0.5W 3216-A 4822 050 22702 2K7 1% 0.6W 3220 4822 116 52284 47k 5% 0.5W 3229 4822 116 52234 1000 5% 0.5W 3231 4822 116 52234 1000 5% 0.5W	6101 4822 130 34478 BXZ79-C11 6104 4822 130 34288 BXZ79-CV8 6107 4822 130 34362 BXZ79-C8V 6190 4822 130 30621 1N4148 6191 4822 130 34714 BXZ79-C4V7 6192 4822 130 30621 1N4148 6193 4822 130 34714 BXZ79-C4V7 6194 4822 130 30621 1N4148 6195-A 4822 130 30621 1N4148 6196-A 4822 130 30621 1N4148	2116 5322 122 32491 1nF 20% 100V 2117 5322 122 32491 1nF 20% 100V 2125 4822 126 12643 22nF 20% 50V 2132 4822 124 40248 10uF 20% 63V 2133 4822 126 12643 22nF 20% 50V 2140 5322 122 32311 470pF 10% 100V 2154 4822 126 12643 22nF 20% 50V 2160 5322 122 32491 1nF 20% 100V			
7600 4822 209 52596 PB3C055-CV6118 (number 12 V2.9)	3233-A 4822 116 52233 10k 5% 0.5W 3235-A 4822 116 52233 10k 5% 0.5W 3236 4822 116 52234 1000 5% 0.5W 3239-A 4822 116 52283 4K7 5% 0.5W 3242 4822 116 52276 3K9 5% 0.5W 3244-A 4822 116 52233 10k 5% 0.5W 3245-A 4822 116 52283 47k 5% 0.5W 3246 4822 116 52284 47k 5% 0.5W 3247-A 4822 116 52233 10k 5% 0.5W	3234 4822 050 11002 1k 1% 0.4W 3249 4822 116 52207 1k2 5% 0.5W 3250-A 4822 116 52283 4K7 5% 0.5W 3251 4822 116 52257 22k 5% 0.5W 3252 4822 116 52289 5K6 5% 0.5W 3253 4822 116 52226 5600 5% 0.5W 3254 4822 116 52289 5K6 5% 0.5W 3255 4822 116 52226 5600 5% 0.5W 3256 4822 116 52271 33k 5% 0.5W 3257 4822 116 52284 47k 5% 0.5W	6222 4822 130 34362 BXZ79-C8V2 6275-A 4822 130 30621 1N4148 6276-A 4822 130 30621 1N4148 6295 4822 130 34174 BXZ79-C4V7 6296-A 4822 130 30621 1N4148 6298-A 4822 130 30621 1N4148 6298-A 4822 130 30621 1N4148 6828 5322 130 31504 BXZ79-C3V3				
4822 276 13499 1 pin 2.35 mm 50 mA2V1	3307 4822 050 26808 60k 1% 0.6W 3308 4822 050 26808 60k 1% 0.6W 3301 4822 116 52175 1000 5% 0.5W 3105-A 4822 116 52263 2K7 5% 0.5W 3106 4822 116 52284 47K 5% 0.5W 3108 4822 116 52256 2K2 5% 0.5W 3110 4822 116 52243 1K5 5% 0.5W 3110-A 4822 116 52243 1K5 5% 0.5W 3115-A 4822 116 52283 4K7 5% 0.5W 3116-A 4822 116 52283 4K7 5% 0.5W	3258 4822 116 52289 5K6 5% 0.5W 3260 4822 116 52211 1500 5% 0.5W 3262 4822 116 52271 33k 5% 0.5W 3263 4822 116 52284 47k 5% 0.5W 3264 4822 116 52289 5K6 5% 0.5W 3265 4822 116 52211 1500 5% 0.5W 3266-A 4822 116 52219 3300 5% 0.5W 3267-A 4822 116 52219 3300 5% 0.5W 3268-A 4822 050 21501 1500 1% 0.6W 3269-A 4822 050 21501 1500 1% 0.6W	7105 4822 130 40938 BC548 7106 4822 130 40938 BC548 7110 4822 130 40938 BC548 7115 4822 130 40941 BC558 7120 4822 130 40938 BC548 7125 4822 130 40941 BC558 7130 4822 130 40938 BC558 7131 4822 130 40938 BC548 7140 4822 130 40938 BC548 7150 4822 130 40938 BC548	3101-A 4822 116 52269 3K3 5% 0.5W 3102 4822 116 52269 3K3 5% 0.5W 3103 4822 116 52269 3K3 5% 0.5W 3104 4822 116 52269 3K3 5% 0.5W 3105 4822 116 52269 3K3 5% 0.5W 3106 4822 116 52269 3K3 5% 0.5W 3107 4822 116 52269 3K3 5% 0.5W 3108 4822 116 52269 3K3 5% 0.5W 3109 4822 116 52269 3K3 5% 0.5W 3110 4822 116 52269 3K3 5% 0.5W			
4822 265 30913 3 pins male WTB for A20	3120-A 4822 116 52263 2K7 5% 0.5W 3121-A 4822 116 52256 2K2 5% 0.5W 3124-A 4822 116 52233 10k 5% 0.5W 3128 4822 116 52303 8K2 5% 0.5W 3130-A 4822 116 52233 10k 5% 0.5W 3135 4822 116 52243 1K5 5% 0.5W 3136 4822 116 52257 22k 5% 0.5W 3137 4822 116 52284 47k 5% 0.5W 3140-A 4822 116 52283 4K7 5% 0.5W 3141 4822 116 52296 6K8 5% 0.5W	3270 4822 116 52234 1000 5% 0.5W 3271-A 4822 116 52283 4K7 5% 0.5W 3273 4822 116 52257 22k 5% 0.5W 3275 4822 050 11002 1K 1% 0.4W 3276 4822 116 52226 5600 5% 0.5W 3277 4822 050 11002 1K 1% 0.4W 3278 4822 116 52226 5600 5% 0.5W 3283 4822 116 52296 6K8 5% 0.5W 3285 4822 116 52213 1800 5% 0.5W 3286-A 4822 116 52199 680 5% 0.5W	7151 4822 130 40938 BC548 7152 4822 130 40938 BC548 7190 4822 209 32531 TD47056A/N2 7191 4822 209 32531 TD47056A/N2 7192 4822 209 32531 TD47056A/N2 7193 4822 130 63427 BD534FI 7194 4822 130 70038 LM358N 7205 4822 130 40938 BC548 7208 4822 130 40938 BC548	3111 4822 116 52273 3K5 5% 0.5W 3112-A 4822 050 11029 120 5% 0.33W 3114 4822 116 52233 10k 5% 0.5W 3115-A 4822 116 52256 2K2 5% 0.5W 3116-A 4822 116 52283 4K7 5% 0.5W 3117 4822 116 52226 5600 5% 0.5W 3118 4822 116 52226 5600 5% 0.5W 3120-A 4822 116 52269 3K3 5% 0.5W 3150-A 4822 116 5215 2200 5% 0.5W 3151 4822 116 52224 4700 5% 0.5W			
4822 265 31193 3 pins male WTB	3143-A 4822 116 52263 2K7 5% 0.5W 3147-A 4822 116 52263 2K7 5% 0.5W 3151-A 4822 116 52256 2K2 5% 0.5W 3152-A 4822 116 52256 2K2 5% 0.5W 3153 4822 116 52257 22k 5% 0.5W 3154 4822 116 52207 1k2 5% 0.5W 3155 4822 116 52277 39k 5% 0.5W 3156 4822 050 11002 1k 1% 0.4W 3157 4822 116 52226 5600 5% 0.5W 3158 4822 116 52226 4700 5% 0.5W	3287-A 4822 116 52283 4K7 5% 0.5W 3289-A 4822 116 52283 4K7 5% 0.5W 3291-A 4822 116 52283 4K7 5% 0.5W 3294 4822 116 52291 56K 5% 0.5W 3295 4822 116 52271 33k 5% 0.5W 3296 4822 116 52291 56K 5% 0.5W 3297 4822 116 52271 33k 5% 0.5W 3300 4822 116 52238 12k 5% 0.5W 3311-A 4822 116 52233 10k 5% 0.5W 3315 4822 116 52175 1000 5% 0.5W	7219-A 4822 130 44197 HCF4053BP 7240 5322 209 10576 HEF4053BP 7250 4822 130 40938 BC548 7260 4822 130 40938 BC548 7261 4822 130 40941 BC558 7265 4822 130 40938 BC548 7266 4822 130 40941 BC558 7270 4822 209 10576 HEF4053BP 7271 4822 130 40938 BC548 7275 4822 130 40938 BC548	3152 4822 116 52273 3K5 5% 0.5W 3154 4822 116 52256 2K2 5% 0.5W 3155 4822 116 52291 56k 5% 0.5W 3156 4822 116 52244 15k 5% 0.5W 3160 4822 116 52245 150k 5% 0.5W			
4822 265 30378 4 pins male WTB Header 1 pin	3159 4822 116 52285 470k 5% 0.5W 3160-A 4822 116 52269 3K3 5% 0.5W 3161 4822 116 52257 22k 5% 0.5W 3162-A 4822 116 52269 3K3 5% 0.5W 3163 4822 116 52276 36k 5% 0.5W 3164 4822 050 11002 1k 1% 0.4W 3165-A 4822 116 52283 4K7 5% 0.5W 3167 4822 116 52257 22k 5% 0.5W 3168 4822 116 52257 22k 5% 0.5W 3169-A 4822 116 52193 390 5% 0.5W	3298 4822 116 52271 33k 5% 0.5W 3296 4822 116 52291 56K 5% 0.5W 3297 4822 116 52271 33k 5% 0.5W 3300 4822 116 52238 12k 5% 0.5W 3311-A 4822 116 52233 10k 5% 0.5W 3315 4822 116 52175 1000 5% 0.5W	7280 4822 130 40938 BC548 7281 4822 130 40941 BC558 7291 4822 130 40941 BC558 7315 4822 130 40938 BC548 7320 4822 130 40938 BC548 7325 4822 130 40941 BC558 7800 4822 209 32863 TD48040V1 7820 4822 130 40938 BC548 7821 4822 130 40941 BC558 7824 4822 130 40938 BC548	3162 4822 116 52269 3K3 5% 0.5W 3163 4822 116 52276 36k 5% 0.5W 3164 4822 050 11002 1k 1% 0.4W 3165-A 4822 116 52283 4K7 5% 0.5W 3167 4822 116 52257 22k 5% 0.5W 3168 4822 116 52257 22k 5% 0.5W 3169-A 4822 116 52193 390 5% 0.5W			
4822 265 30953 4 pins female WTB Header 1 pin	3170-A 4822 116 52263 2K7 5% 0.5W 3171-A 4822 116 52283 4K7 5% 0.5W 3172 4822 116 52292 560k 5% 0.5W 3173 4822 116 52292 560k 5% 0.5W 3174 4822 116 52263 2K7 5% 0.5W 3175 4822 116 52249 1K5 5% 0.5W 3176 4822 116 52249 1K5 5% 0.5W 3177-A 4822 116 52269 3K3 5% 0.5W 3178 4822 050 11002 1K 1% 0.4W 3179-A 4822 116 52233 10K 5% 0.5W	3298 4822 116 52271 33k 5% 0.5W 3296 4822 116 52291 56K 5% 0.5W 3297 4822 116 52271 33k 5% 0.5W 3300 4822 116 52238 12k 5% 0.5W 3311-A 4822 116 52233 10k 5% 0.5W 3315 4822 116 52175 1000 5% 0.5W	7280 4822 130 40938 BC548 7281 4822 130 40941 BC558 7291 4822 130 40941 BC558 7315 4822 130 40938 BC548 7320 4822 130 40938 BC548 7325 4822 130 40941 BC558 7800 4822 209 32863 TD48040V1 7820 4822 130 40938 BC548 7821 4822 130 40941 BC558 7824 4822 130 40938 BC548	3162 4822 116 52269 3K3 5% 0.5W 3163 4822 116 52276 36k 5% 0.5W 3164 4822 050 11002 1k 1% 0.4W 3165-A 4822 116 52283 4K7 5% 0.5W 3167 4822 116 52257 22k 5% 0.5W 3168 4822 116 52257 22k 5% 0.5W 3169-A 4822 116 52193 390 5% 0.5W			
4822 265 40471 8 pins female BTB (AU)	3180 4822 116 52271 33k 5% 0.5W 3185 4822 050 26808 60k 1% 0.6W 3186 4822 050 26808 60k 1% 0.6W 3189 4822 116 52304 82k 5% 0.5W 3190 4822 116 52276 36k 5% 0.5W 3191 4822 116 52245 150k 5% 0.5W 3192 4822 116 52289 5K6 5% 0.5W 3193 4822 116 52289 5K6 5% 0.5W 3194 4822 116 52289 5K6 5% 0.5W 3195 4822 116 52213 1800 5% 0.5W	3298 4822 116 52271 33k 5% 0.5W 3296 4822 116 52291 56K 5% 0.5W 3297 4822 116 52271 33k 5% 0.5W 3300 4822 116 52238 12k 5% 0.5W 3311-A 4822 116 52233 10k 5% 0.5W 3315 4822 116 52175 1000 5% 0.5W	7280 4822 130 40938 BC548 7281 4822 130 40941 BC558 7291 4822 130 40941 BC558 7315 4822 130 40938 BC548 7320 4822 130 40938 BC548 7325 4822 130 40941 BC558 7800 4822 209 32863 TD48040V1 7820 4822 130 40938 BC548 7821 4822 130 40941 BC558 7824 4822 130 40938 BC548	3162 4822 116 52269 3K3 5% 0.5W 3163 4822 116 52276 36k 5% 0.5W 3164 4822 050 11002 1k 1% 0.4W 3165-A 4822 116 52283 4K7 5% 0.5W 3167 4822 116 52257 22k 5% 0.5W 3168 4822 116 52257 22k 5% 0.5W 3169-A 4822 116 52193 390 5% 0.5W			
4822 265 40471 8 pins female BTB (AU)	3196-A 4822 116 52269 3K3 5% 0.5W 3201 4822 116 52201 750 5% 0.5W 3202 4822 050 11002 1k 1% 0.4W 3203 4822 116 52175 1000 5% 0.5W 3204 4822 050 11002 1k 1% 0.4W 3205 4822 050 11002 1k 1% 0.4W 3206 4822 116 52175 1000 5% 0.5W 3207 4822 116 52285 470k 5% 0.5W 3208 4822 116 52201 750 5% 0.5W	3298 4822 116 52271 33k 5% 0.5W 3296 4822 116 52291 56K 5% 0.5W 3297 4822 116 52271 33k 5% 0.5W 3300 4822 116 52238 12k 5% 0.5W 3311-A 4822 116 52233 10k 5% 0.5W 3315 4822 116 52175 1000 5% 0.5W	7280 4822 130 40938 BC548 7281 4822 130 40941 BC558 7291 4822 130 40941 BC558 7315 4822 130 40938 BC548 7320 4822 130 40938 BC548 7325 4822 130 40941 BC558 7800 4822 209 32863 TD48040V1 7820 4822 130 40938 BC548 7821 4822 130 40941 BC558 7824 4822 130 40938 BC548	3162 4822 116 52269 3K3 5% 0.5W 3163 4822 116 52276 36k 5% 0.5W 3164 4822 050 11002 1k 1% 0.4W 3165-A 4822 116 52283 4K7 5% 0.5W 3167 4822 116 52257 22k 5% 0.5W 3168 4822 116 52257 22k 5% 0.5W 3169-A 4822 116 52193 390 5% 0.5W			
4822 265 40471 8 pins female BTB (AU)	3209 4822 116 52256 2k2 5% 0.5W 3210 4822 116 52201 750 5% 0.5W 3211 4822 116 52258 220k 5% 0.5W 3212 4822 116 52175 1000 5% 0.5W 3213-A 4822 050 22702 2K7 1% 0.6W 3214 4822 116 52175 1000 5% 0.5W 3215 4822 116 52258 220k 5% 0.5W 3216-A 4822 050 22702 2K7 1% 0.6W 3220 4822 116 52284 47k 5% 0.5W 3229 4822 116 52234 1000 5% 0.5W 3231 4822 116 52234 1000 5% 0.5W	3298 4822 116 52271 33k 5% 0.5W 3296 4822 116 52291 56K 5% 0.5W 3297 4822 116 52271 33k 5% 0.5W 3300 4822 116 52238 12k 5% 0.5W 3311-A 4822 116 52233 10k 5% 0.5W 3315 4822 116 52175 1000 5% 0.5W	7280 4822 130 40938 BC548 7281 4822 130 40941 BC558 7291 4822 130 40941 BC558 7315 4822 130 40938 BC548 7320 4822 130 40938 BC548 7325 4822 130 40941 BC558 7800 4822 209 32863 TD48040V1 7820 4822 130 40938 BC548 7821 4822 130 40941 BC558 7824 4822 130 40938 BC548	3162 4822 116 52269 3K3 5% 0.5W 3163 4822 116 52276 36k 5% 0.5W 3164 4822 050 11002 1k 1% 0.4W 3165-A 4822 116 52283 4K7 5% 0.5W 3167 4822 116 52257 22k 5% 0.5W 3168 4822 116 52257 22k 5% 0.5W 3169-A 4822 116 52193 390 5% 0.5W			
4822 265 40471 8 pins female BTB (AU)	3233-A 4822 116 52233 10k 5% 0.5W 3235-A 4822 116 52233 10k 5% 0.5W 3236 4822 116 52234 1000 5% 0.5W 3239-A 4822 116 52283 4K7 5% 0.5W 3242 4822 116 52276 3K9 5% 0.5W 3244-A 4822 116 52233 10k 5% 0.5W 3245-A 4822 116 52283 47k 5% 0.5W 3246 4822 116 52284 47k 5% 0.5W 3247-A 4822 116 52233 10k 5% 0.5W	3298 4822 116 52271 33k 5% 0.5W 3296 4822 116 52291 56K 5% 0.5W 3297 4822 116 52271 33k 5% 0.5W 3300 4822 116 52238 12k 5% 0.5W 3311-A 4822 116 52233 10k 5% 0.5W 3315 4822 116 52175 1000 5% 0.5W	7280 4822 130 40938 BC548 7281 4822 130 40941 BC558 7291 4822 130 40941 BC558 7315 4822 130 40938 BC548 7320				

Amplification part (Anubis S BB)



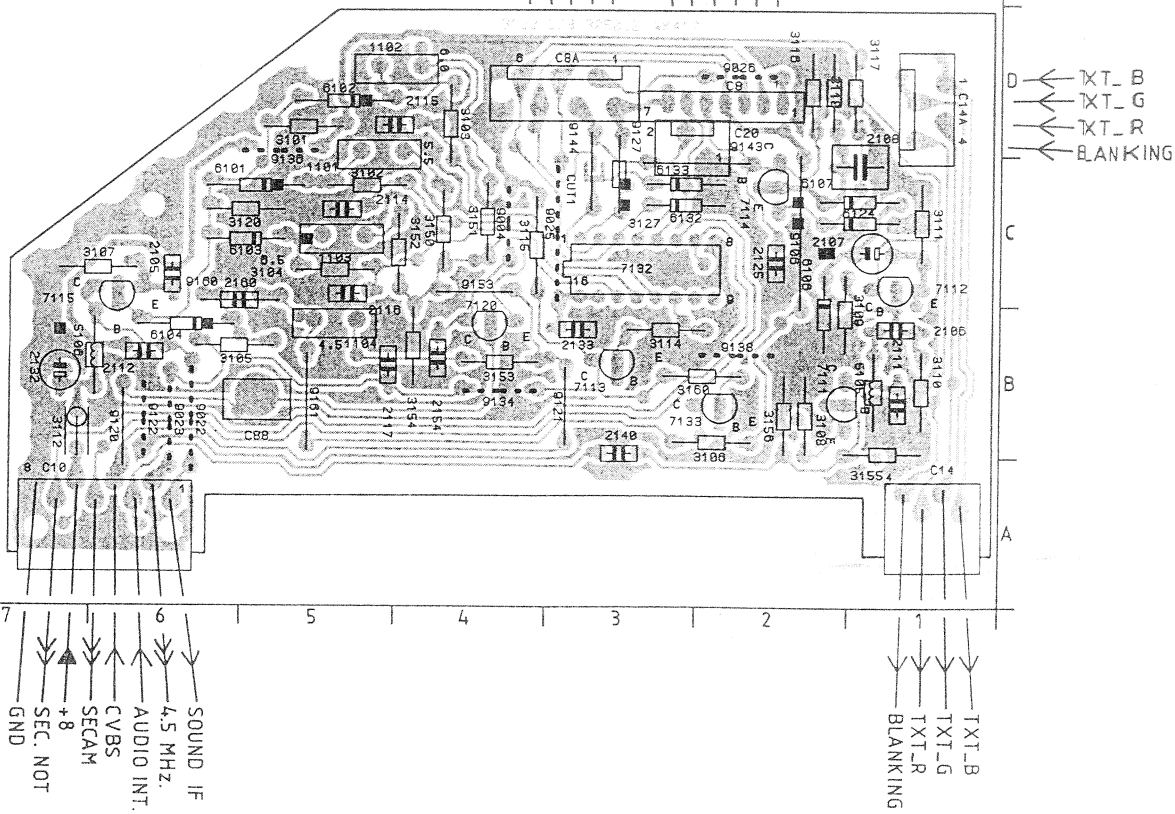
Multisound panel / Multi sonido (Anubis S BB)



FROM / TO
NOT USED M8 MAIN CARRIER

SOUND ID/STEREO AVAILABLE

GND
 SCL
 SDA
 +5V D
 STROBE
 STROBE
 SPATIAL
 SOUND ID
 +5V D
 SDA
 SCL



1101	D4	7133	B2
1102	D4	9004	C4
1103	C5	9022	B6
1104	C5	9023	B6
2105	C6	9025	C3
2106	C1	9026	D2
2107	C1	9106	C2
2108	D1	9120	B6
2111	C1	9121	B3
2112	B6	9122	B6
2114	C5	9127	D3
2115	D4	9134	B4
2116	C5	9136	D5
2117	B4	9138	B2
2125	C2	9143	D2
2132	B6	9144	D3
2133	C3	9153	C4
2140	B3	9160	C5
2154	B4	9161	B5
2160	C5	C8	D2
3101	D5	C8A	D3
3102	C4	C10	A6
3103	D4	C14	A1
3104	C5	C14A	D1
3105	B5	C20	D2
3106	B2	C88	B5
3107	C6		
3108	B2		
3109	C1		
3110	B1		
3111	C1		
3112	B5		
3114	C2		
3115	C3		
3116	D2		
3117	D1		
3118	D1		
3120	C5		
3127	D3		
3150	C4		
3151	C4		
3152	C4		
3153	B4		
3154	B4		
3155	B1		
3156	D2		
3160	B2		
5105	B1		
5106	B6		
6101	C5		
6102	D5		
6103	D5		
6104	C6		
6106	C1		
6107	C1		
6124	C1		
6132	C2		
6133	C2		
7111	B1		
7112	C1		
7113	B3		
7114	C2		
7115	C6		
7120	C4		
7132	C3		

7133	B2
9004	C4
9022	B6
9023	B6
9025	C3
9026	D2
9106	C2
9120	B6
9121	B3
9122	B6
9127	D3
9134	B4
9136	D5
9138	B2
9143	D2
9144	D3
9153	C4
9160	C5
9161	B5
C8	D2
C8A	D3
C10	A6
C14	A1
C14A	D1
C20	D2
C88	B5

- SOUND IF
- 4.5 MHZ.
- AUDIO INT.
- CVBS
- SECAM
- +8
- SEC. NOT
- GND

-TXI_B
 -TXI_G
 -TXI_R
 -BLANKING

Service Information

25" Anubis S BB sets 110° picture tube (for -/93)

29" Anubis S BB (all versions)

In this service information all relevant adaptations are published for the -/93 25" Anubis S BB sets with 110° picture tube and all versions 29" Anubis S BB.

The following is published in this service information:

- Adapted PWB's for the main carrier and the mains input and power supply control panel for the 25" and the 29". Further a new PWB for the S-correction panel of the 25" 110°. The spare parts list of these panels and the adapted large signal diagram (diagram AA) is published.
- Adapted PWB for the new combined CRT panel for the 25" and 29" Anubis S BB. Also the spare parts list of this adapted CRT panel and the adapted diagram EE is given.
- A description of the 50/60 Hz identification circuitry for the 25" 110° Anubis S BB.
- A description of the dynamic S circuitry for the 25" 110° Anubis S BB.

Description of the 50/60 Hz identification circuitry for the 25" Anubis S BB 110° picture tube.

For 110° picture tubes used in 25" -/93 a 50/60 Hz identification circuitry is required as IC7225 does not have a 50/60 Hz identification pin. This 50/60 Hz identification circuitry is used for adapting the amount of E/W correction for the different pin-cushion effect for 50/60 Hz frames.

Operation:

HORZ_PULSE is a 15625 Hz pulse for 50 Hz frame, or a 15750 Hz pulse for 60 Hz frame. This HORZ_PULSE signal is coming from pin 26 of the μ C OSD generator.

VERT_PULSE is a 50 Hz pulse for 50 Hz frame, or a 60 Hz pulse for 60 Hz frame. This VERT_PULSE signal is coming from pin 27 of the μ C OSD generator. The collector of TS7734 is "high" in case the frame starts again.

Counter IC7730 is a HEF4040BP which counts the pulses at the CP (clock input) input pin 10 and gives a pulse at output pins after 2-4-8-16-32-64 etc pulses. The counting starts again when pin 11 MR (master reset) becomes "high".

In this application the horizontal pulses at the CP input pin 10 IC7730 are counted to a quantity of 272 pulses via output pins 3 and 12 (256 + 16 = 272; 256 pulses are counted at output pin 3, and 16 pulses are counted at output pin 12). The MR is connected to the VERT_PULSE, so IC7730 starts counting again at the beginning of a new 50 or 60 Hz frame.

Dual D-flip flop IC7731 is a HEF4013BP which clocks through the data at pin D (resp. 5 and 9) to the output pins (pin 1 positive output and pin 12 negative output) at the rising edge of the clock input CP (resp. pin 3 and 11) depending on the SD (set direct) and CD (clear direct) pins.

- When the set direct (SD) pins 6 and 8 are "high", the positive output pins are "high" and the negative output pins are "low" independent from the data at pin 5 resp 9 (only as long as the CD is "low").
In this application this feature is not used as both pins 6 and 8 are shorted.
- When the clear direct (CD) pins 4 and 10 are "high", the positive output pins are "low" and the negative output pins are "high" independent from the data at pin 5 resp 9 (only as long as SD is "low").
In this application this feature is only used for pin 4 IC7731/2A (and not for IC7731/2B as pin 10 is shorted).
- At the moment **both** the SD and CD are "high", this is a conflict status. In that case both the positive and the negative output will be made "high" independent from the data at pin 5 resp 9.
- Only in case **both** the SD and the CD are "low", the data at the data pins 5 and 9 can be clocked through to the positive and negative output pins.

So in this application:

- IC7731/2A is configured for clocking through the data at pin 5 to the positive output pin 1 at the rising edge of pin 3 **only as long as pin 4 is "low"**.
- IC7731/2B is configured for clocking through the data at pin 9 to the negative output pin 12 at the rising edge of pin 11.



At **50 Hz reception** (see Fig. 1) each frame is 312.5 lines (15625 Hz for 50 frames), which is more then 272 pulses. On the moment the counter has passed 272 both output pins 3 and 12 of counter IC7730 are "high" and so TS7332 blocks. As a result the collector of TS7332 thus pin 3 IC7731/2A becomes "low". At the rising edge of pin 3 (at pulse 288), the data at pin 5 IC7332/2A (+5V) is clocked to the positive output pin 1 IC7731/2A (so making pin 1 "high") as long as pin 4 remains "low". So in case of 50 Hz reception output pin 1 is "high" from pulse 288 to the end of a frame because:

- pin 3 IC7731/2A is "low" from pulse 272 to 288, giving a rising edge at pulse 288 (pin 3 is also "low" from pulse 304 to 312 giving a rising edge at pulse 312, but this is not important as by then pin 5 is already clocked to pin 1).
- pin 4 IC7731/2A is always "low" until the voltage at pin 4 across the RC network 3734/2734 has become +5V at the end of the frame.

On the moment pin 4 becomes +5V, IC7731/2A is resetted, enabling 50/60 Hz detection for every frame again and again.

The "high" output pin 1 IC7731/2A is fed to input pin 9 IC7731/2B and is inverted clocked through to pin 12 at the rising edge of pin 11 (making output pin 12 IC7731/2B "low").

As a result pin 12 IC7731/2B becomes "low" at the end of the frame when a 50 Hz frame is detected for the first time. After that pin 12 will remain "low" until a 60 Hz frame is counted.

At **60 Hz reception** each frame is 262.5 lines (15750 Hz for 60 frames), which is less then 272 pulses. In that case both output pins 3 and 12 of counter IC7730 will never become "high" any more at the same time (also not at the end of the frame). As a result TS7332 always conducts and so the collector of TS7332 thus pin 3 IC7731/2A always remains "high".

The data at pin 5 IC7731/2A (+5V) is only "flip flopped" to output pin 1 IC7731/2A in case of a rising edge at pin 3 and as long as pin 4 is "low". As pin 3 is constantly "high", there will never be a rising edge, so in case of 60 Hz reception pin 1 IC7731/2A always remain "low", so pin 12 IC7731/2B always remain "high" (also at the end of a frame).

For **50 Hz** pin 12 IC7731/2B is "low", so TS7733 is not conducting. This results in a less modified E/W modulation.

For **60 Hz** pin 12 is always "high", so TS7733 conducts constantly, shorting R3474 in the E/W modulator. This modifies the E/W modulation by changing the current.

Description of the dynamic S circuitry for the 25" Anubis S BB 110° picture tube.

This separate panel is only needed for the 25" Anubis S BB sets with 110° picture tube. This panel is used for reducing the pin-cushion effect within the picture content (every line) (this can not be realised via the E/W modulator as these modulator takes care of the outline of each frame).

The dynamic S panel consists of the S-correction capacitor C2490 and an auto-transformer. The panel is inserted at the position and instead of jumper 9455. For every line (50 or 60 Hz) a dynamic S correction is modulated on the horizontal deflection to achieve a good linear horizontal scan.

Finally, to correct the 4 corners from bending inwards D6471 and 6473 with R3471 and 3473 are added (only for 25" Anubis S BB 110° picture tube). This circuit is called the higher order S-correction circuitry.

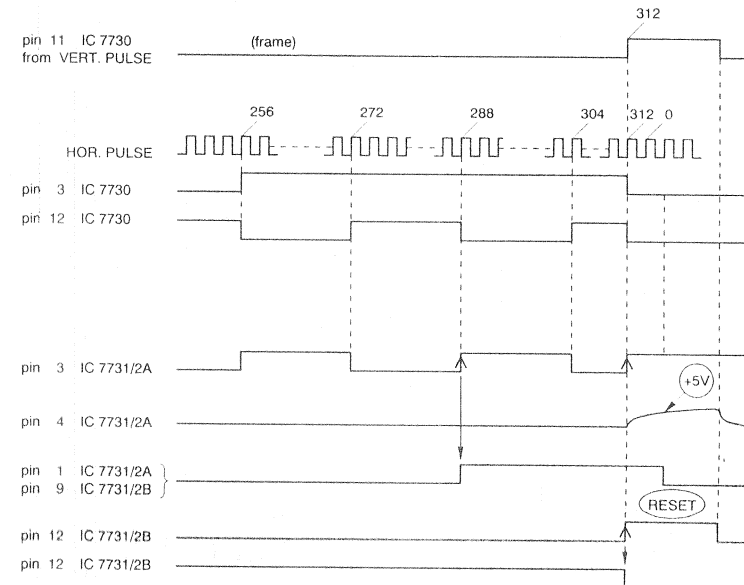
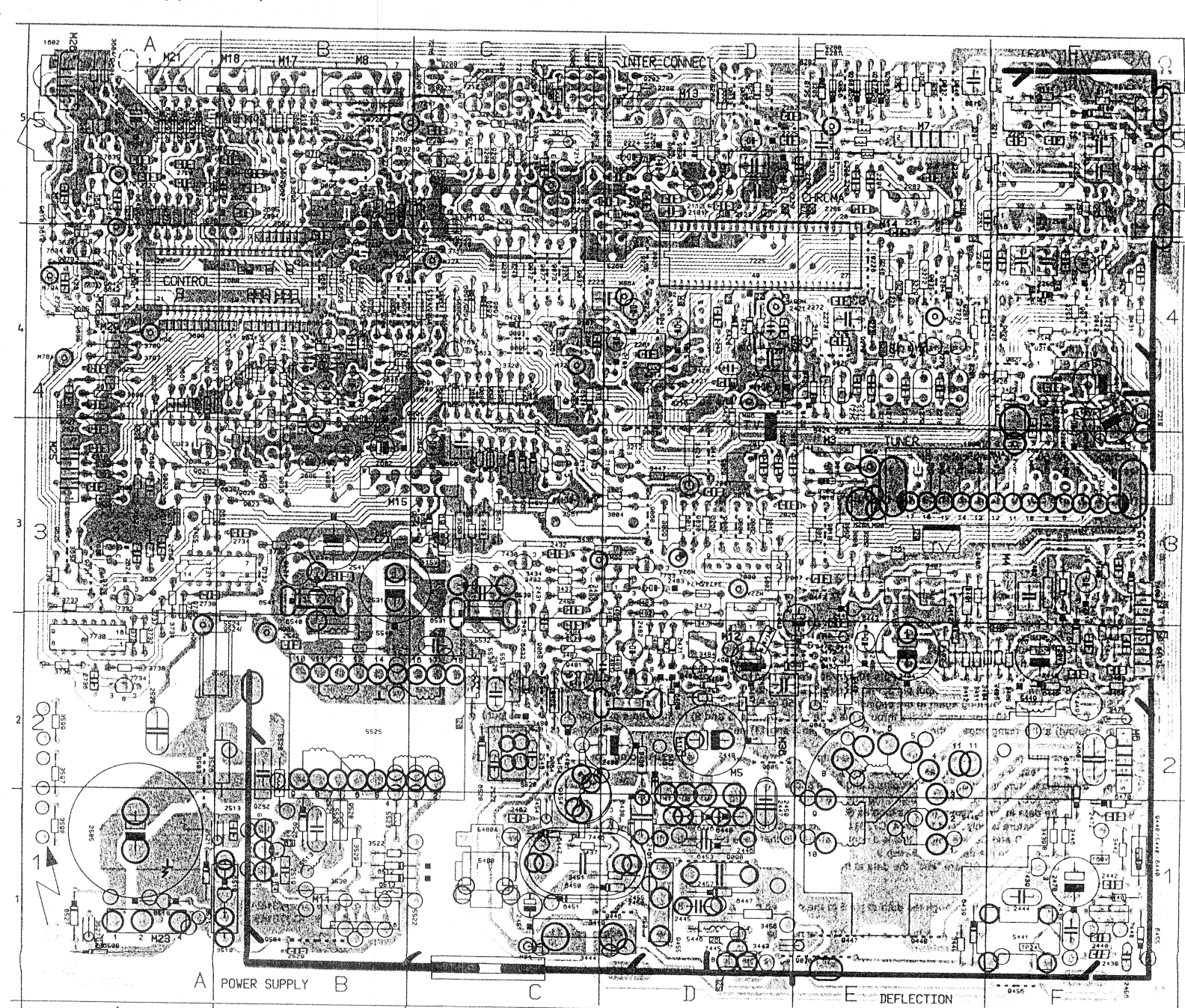


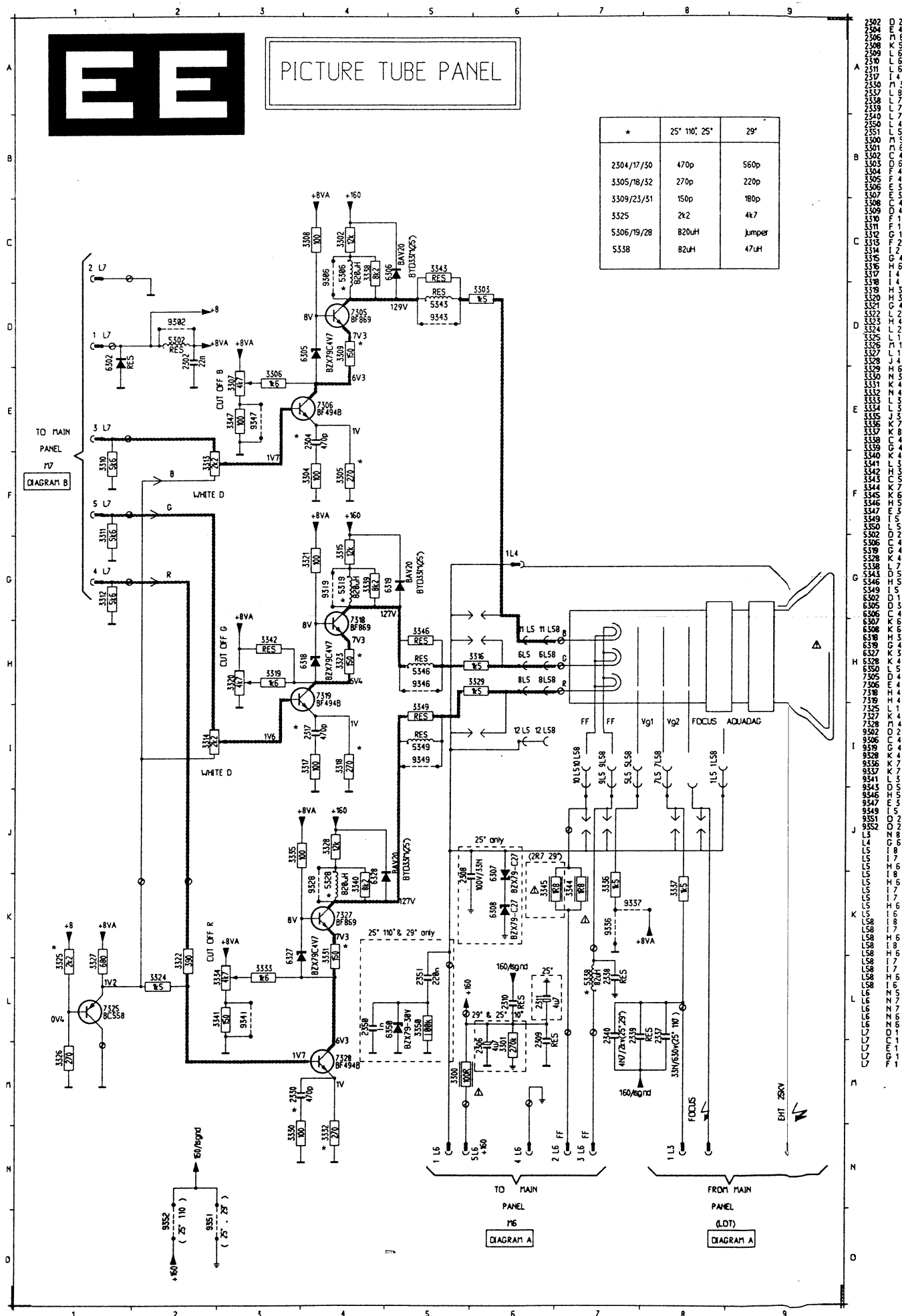
Fig. 1 Figures at 1st time 50Hz detection

Main carrier 25" and 29" Anubis S BB (Copper side)

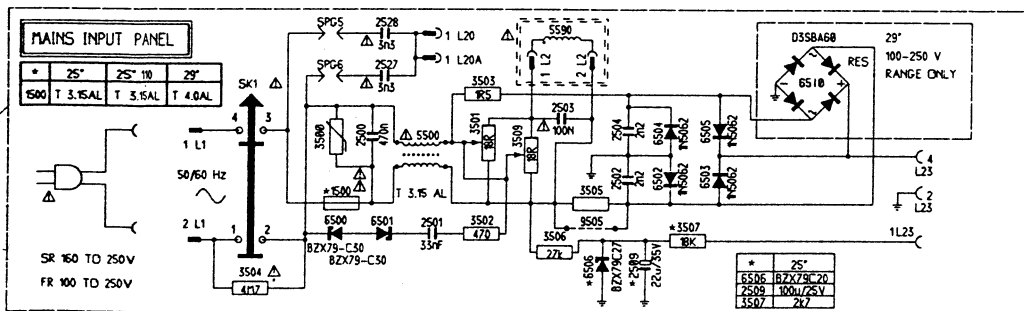
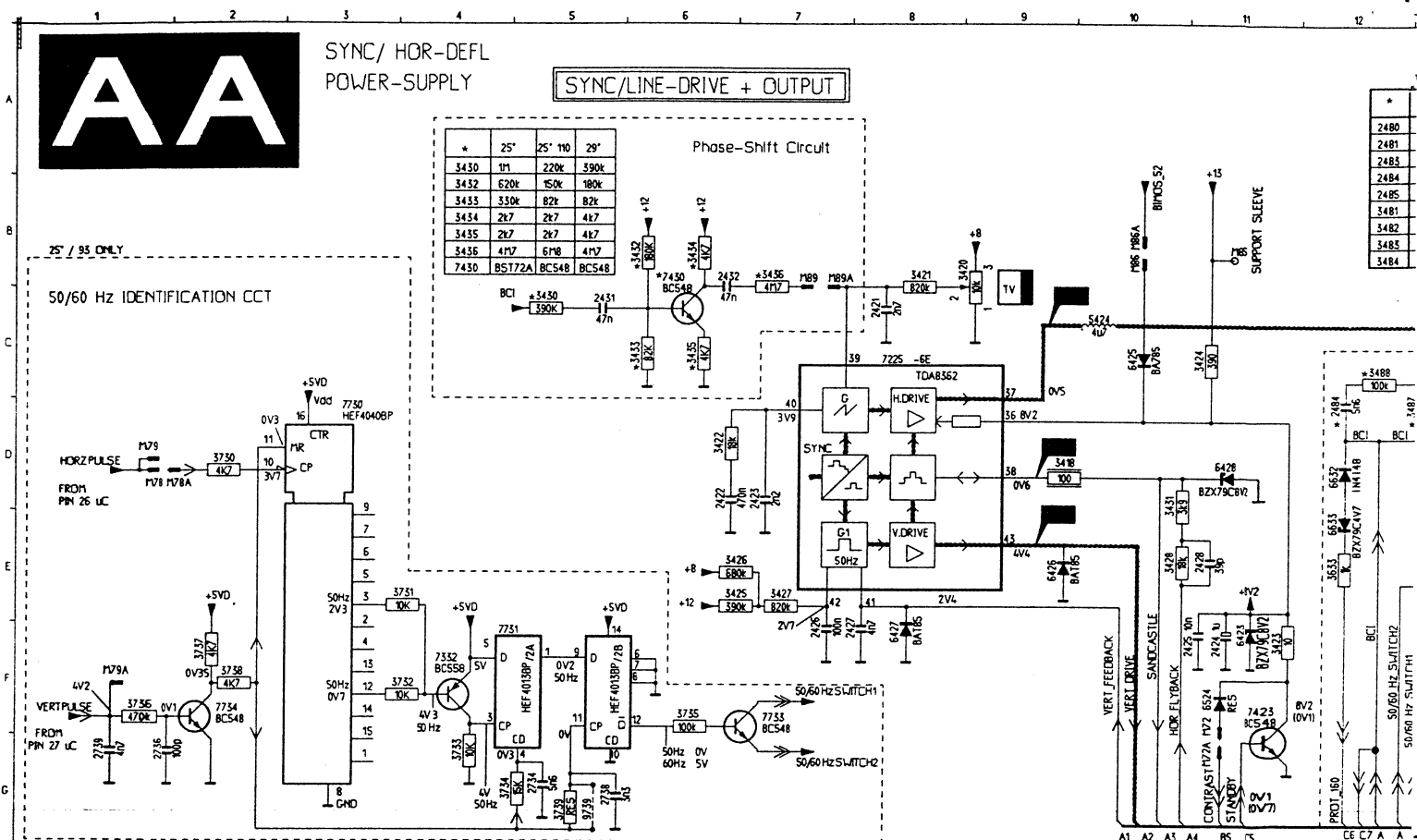
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1015 D4	2526 A2	3410 E3	3696 B5	6543 B3	9219 F4
1105 C5	2528 B2	3411 E2	3697 A4	6542 C3	9225 C5
1106 C5	2530 C3	3412 E2	3698 A4	6545 C3	9228 E4
1204 C5	2530 C3	3413 F3	3699 B4	6545 A5	9227 D4
1206 C5	2531 B3	3414 F2	3700 B4	6546 B5	9245 E4
1207 C5	2540 B3	3415 F2	3702 B4	6607 A5	9246 E4
1208 C5	2541 B3	3416 F3	3703 B4	6618 A3	9249 E4
1276 E4	2542 C2	3419 C1	3704 B4	6619 A3	9279 E4
1278 E4	2543 C2	3420 D4	3706 B4	6620 A3	9280 E5
1279 E4	2543 A3	3421 C1	3707 B4	6621 A3	9281 E4
1440 F2	2604 B5	3422 D4	3708 B4	6648 C3	9283 C4
1440 B3	2605 B5	3423 D4	3709 A4	6650 A4	9286 E5
1442 A5	2606 B4	3424 D3	3710 A4	6651 A4	9286 E5
1630 A4	2607 B5	3425 F4	3713 C4	6697 C4	9288 E5
2001 D3	2608 B5	3426 F4	3715 A5	6715 A5	9298 E5
2002 F4	2610 A3	3427 F4	3717 B5	6726 A5	9316 F3
2007 E3	2615 A4	3428 F4	3718 B5	6727 A5	9317 D2
2008 F4	2620 B5	3429 F4	3719 B4	6728 A5	9318 F1
2009 F4	2621 B4	3430 C2	3720 D3	7000 D3	9441 D3
2011 F4	2624 A3	3431 C4	3721 C4	7109 D3	9443 E3
2016 D3	2625 A3	3433 C3	3722 A5	7212 C5	9446 E1
2017 D3	2626 A3	3433 C3	3722 A5	7213 C5	9447 E1
2026 D3	2628 A4	3435 C2	3730 A5	7214 C5	9448 E1
2027 D3	2636 A3	3436 D3	3731 A2	7216 C5	9455 D1
2101 D5	2638 A5	3437 C1	3732 A2	7217 C5	9456 D1
2102 D5	2640 A5	3438 D2	3733 A3	7218 F4	9472 D2
2103 D5	2648 C3	3439 F1	3734 A3	7219 F4	9474 D3
2104 D4	2656 C3	3440 F1	3735 B3	7240 C5	9481 D3
2112 D5	2682 B3	3442 F1	3736 A2	7245 F5	9482 C2
2119 C5	2683 A3	3443 F1	3737 A2	7245 F5	9482 C2
2123 D5	2685 B3	3444 C1	3738 A2	7245 F5	9482 C2
2138 E5	2687 B4	3445 E1	3739 A3	7269 C5	9503 A2
2200 C5	2688 B3	3446 F1	3740 A3	7269 C5	9503 A2
2208 E5	2692 B4	3447 D3	3741 A3	7277 E4	9503 B1
2212 E5	2695 B3	3448 E2	3742 D3	7278 E4	9524 E2
2213 D4	2700 B4	3451 D1	3743 E2	7278 E4	9524 E2
2219 D5	2703 B4	3452 E2	3744 E2	7278 E4	9524 E2
2220 D5	2711 B5	3453 D1	3745 E2	7278 E4	9524 E2
2221 D5	2714 A5	3455 C2	3746 E2	7278 E4	9524 E2
2222 D4	2721 B5	3456 D1	3747 D3	7278 E4	9524 E2
2223 C4	2722 A5	3457 C2	3748 D3	7278 E4	9524 E2
2224 D5	2726 A5	3458 D2	3749 F1	7278 E4	9524 E2
2225 D5	2727 A5	3460 F2	3750 A5	7278 E4	9524 E2
2226 D5	2728 D3	3470 F2	3751 A5	7278 E4	9524 E2
2236 F5	2734 B3	3471 D2	3752 A5	7278 E4	9524 E2
2243 F5	2736 A2	3472 D2	3753 A5	7278 E4	9524 E2
2245 F5	2738 A3	3473 D2	3754 A5	7278 E4	9524 E2
2246 F5	2739 A4	3474 D2	3755 A5	7278 E4	9524 E2
2248 E4	3000 F4	3475 D2	3756 A5	7278 E4	9524 E2
2249 F4	3003 E3	3481 D2	3757 A5	7278 E4	9524 E2
2251 E5	3004 D3	3482 D3	3758 A5	7278 E4	9524 E2
2253 F4	3005 D3	3483 D3	3759 A5	7278 E4	9524 E2
2254 F4	3010 F4	3484 D2	3760 A5	7278 E4	9524 E2
2256 F4	3016 D3	3485 D3	3761 A5	7278 E4	9524 E2
2257 F4	3017 E3	3486 D2	3762 A5	7278 E4	9524 E2
2260 C5	3018 E3	3487 C2	3763 A5	7278 E4	9524 E2
2261 D4	3019 D3	3488 D2	3764 A5	7278 E4	9524 E2
2262 F4	3020 F4	3489 D3	3765 A5	7278 E4	9524 E2
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2265 D4	3106 D5	3520 C2	3767 A5	7278 E4	9524 E2
2266 D5	3113 C4	3521 A1	3768 A5	7278 E4	9524 E2
2272 E4	3128 C4	3522 A1	3769 A5	7278 E4	9524 E2
2273 E4	3130 D5	3525 A2	3770 A5	7278 E4	9524 E2
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2405 E2	3207 C5	3590 A3	3785 A5	7278 E4	9524 E2
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2415 F3	3209 D5	3602 B4	3787 A5	7278 E4	9524 E2
2416 F3	3210 D4	3603 A5	3788 A5	7278 E4	9524 E2
2421 D4	3211 C5	3604 A5	3789 A5	7278 E4	9524 E2
2422 D4	3212 D3	3605 A4	3790 A5	7278 E4	9524 E2
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2431 C2	3245 E4	3612 C4	3797 A5	7278 E4	9524 E2
2432 C2	3250 F5	3617 A3	3798 A5	7278 E4	9524 E2
2436 F1	3251 E5	3622 A4	3799 A5	7278 E4	9524 E2
2439 F1	3252 F5	3625 B5	3800 A5	7278 E4	9524 E2
2440 F1	3253 F4	3626 A5	3801 A5	7278 E4	9524 E2
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2442 F1	3255 E5	3633 A3	3803 A5	7278 E4	9524 E2
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2444 F1	3257 E5	3635 A5	3805 A5	7278 E4	9524 E2
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2448 D2	3262 E3	3639 A5	3809 A5	7278 E4	9524 E2
2449 F2	3263 C4	3641 A5	3810 A5	7278 E4	9524 E2
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2451 C1	3265 D3	3643 A5	3812 A5	7278 E4	9524 E2
2452 D2	3267 B5	3645 B3	3813 A5	7278 E4	9524 E2
2453 F2	3268 E5	3646 A4	3814 A5	7278 E4	9524 E2
2454 D2	3270 C3	3647 B4	3815 A5	7278 E4	9524 E2
2455 D1	3271 B5	3648 C4	3816 A5	7278 E4	9524 E2
2456 F1	3272 E4	3649 C4	3817 A5	7278 E4	9524 E2
2457 D1	3273 E4	3650 C3	3818 A5	7278 E4	9524 E2
2458 D2	3275 E4	3652 B4	3819 A5	7278 E4	9524 E2
2459 D2	3276 E4	3653 B4	3820 A5	7278 E4	9524 E2
2460 F2	3277 E4	3654 C4	3821 A5	7278 E4	9524 E2
2461 D1	3278 E4	3655 C3	3822 A5	7278 E4	9524 E2
2462 C1	3279 E4	3656 A4	3823 A5	7278 E4	9524 E2
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2484 E2	3401 E2	3686 B3	3831 A5	7278 E4	9524 E2
2502 A1	3403 F2	3687 B3	3832 A5	7278 E4	9524 E2
2510 B1	3404 F2	3688 B3	3833 A5	7278 E4	9524 E2
2519 B1	3405 F2	3691 A4	3834 A5	7278 E4	9524 E2
2520 D2	3406 E3	3692 B4	3835 A5	7278 E4	9524 E2
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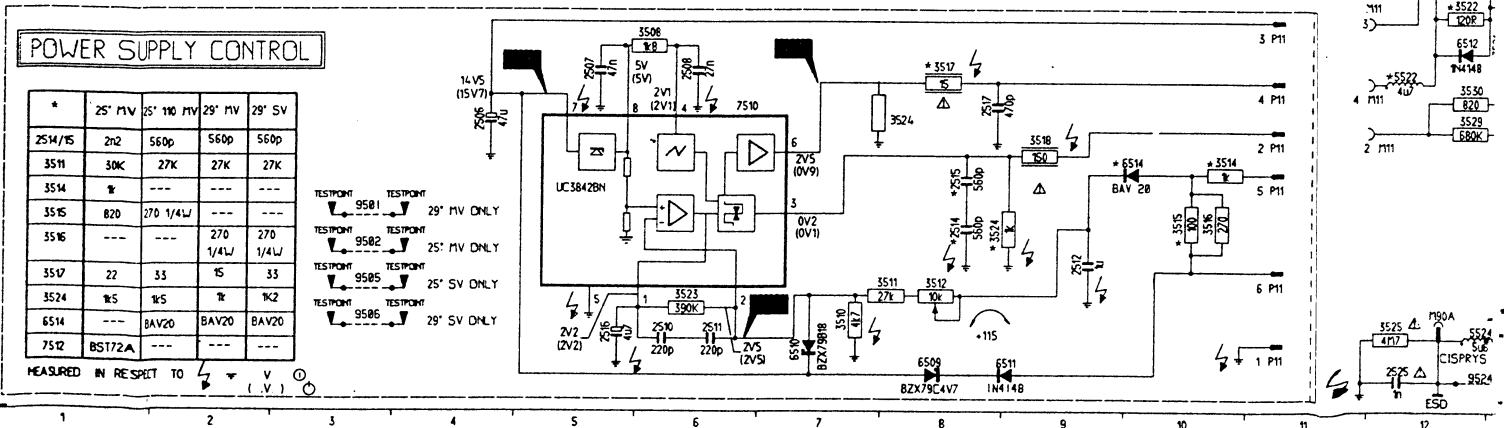
PCS 80 502



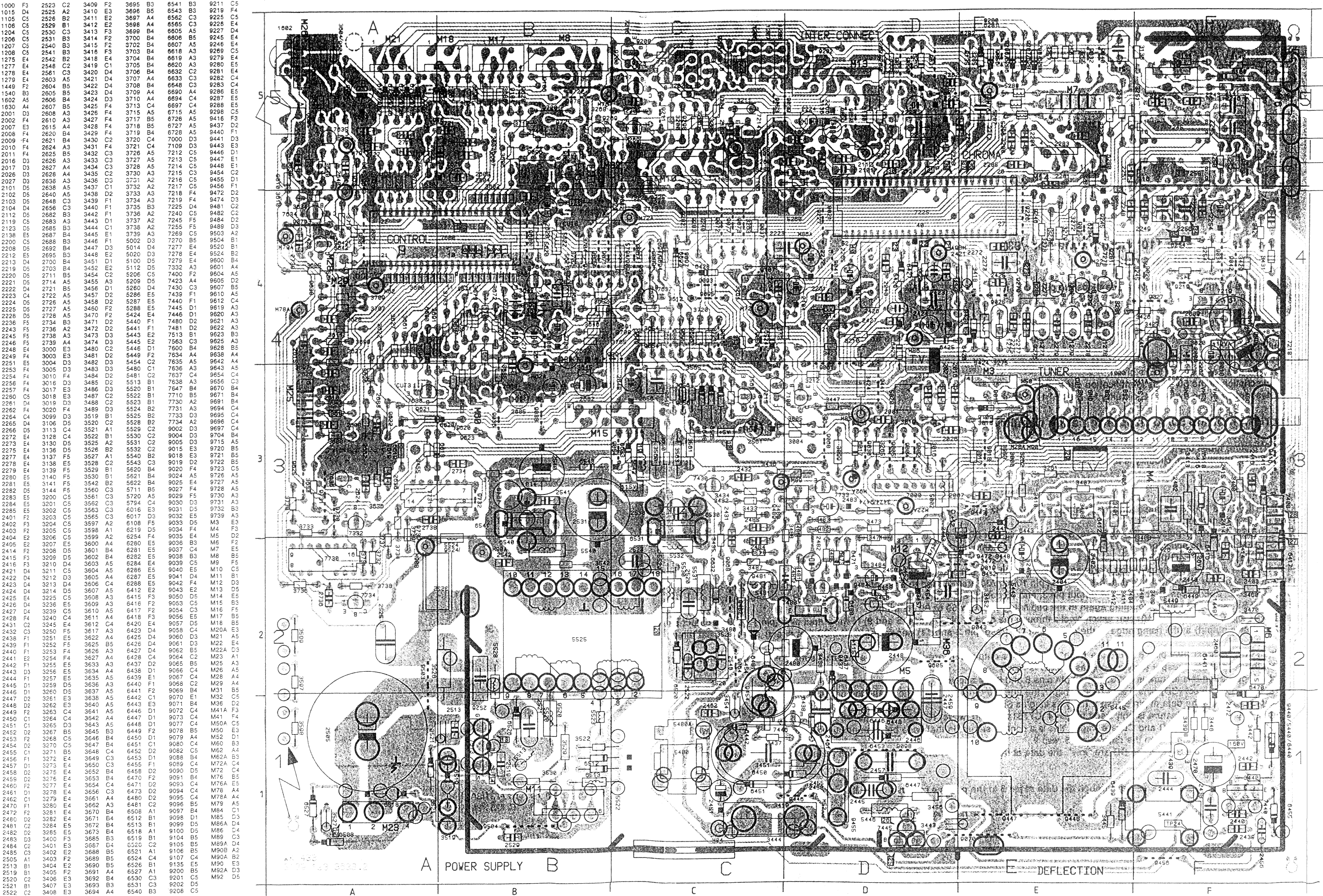
Power supply + Synchronisation + Deflection



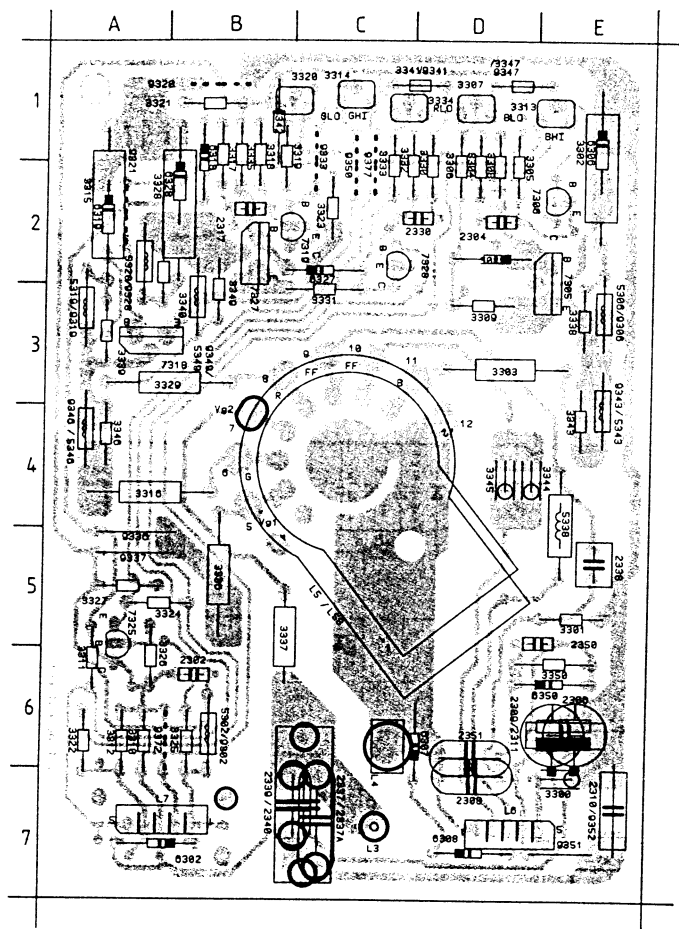
WARNING : - DO NOT TOUCH TRANSISTOR (513)
W MULTIMETER PROBE WHEN SET ON
OR MAIN SWITCH IS OFF
- DISCHARGE MAINS CAP. (2500)
W 1K/WATT RESISTOR BEFORE
TOUCHING THE TRANSISTOR (513)



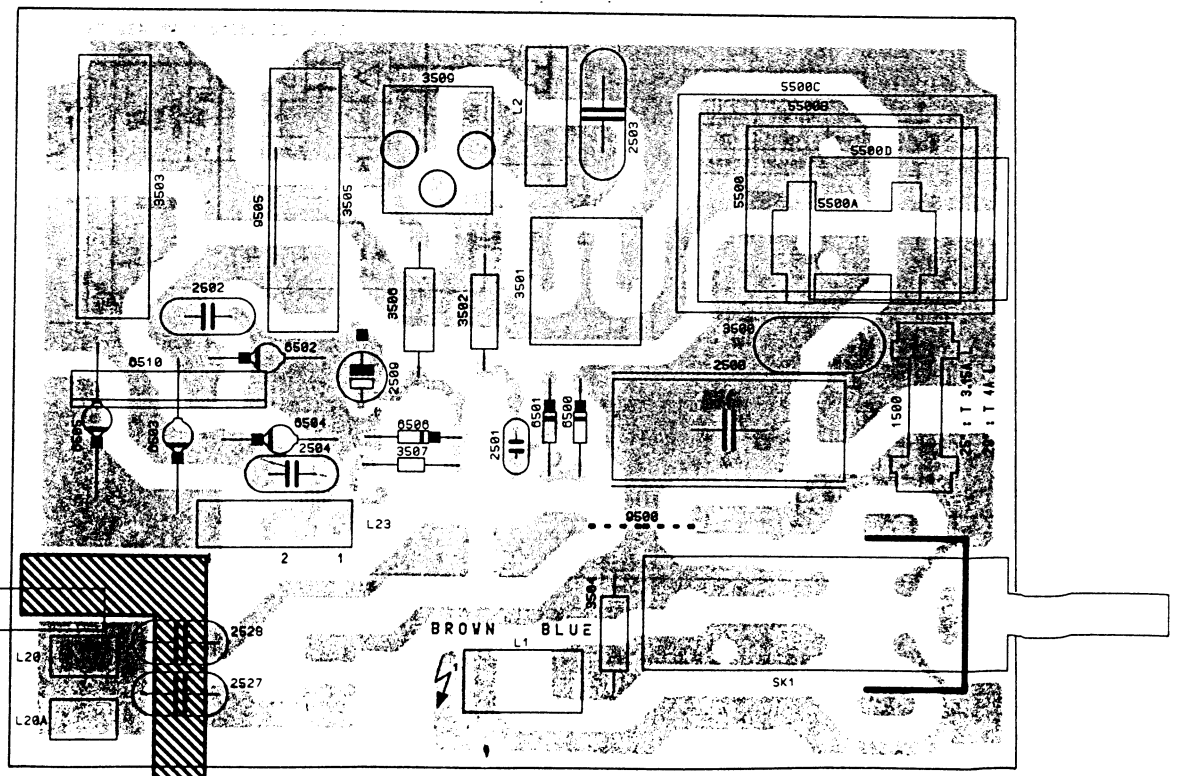
Main carrier 25" and 29" Anubis S BB (Copper side)



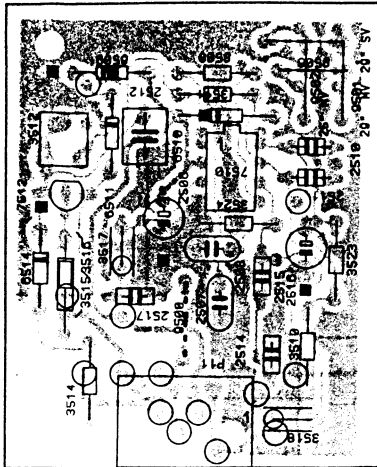
CRT panel 25" and 29" (Copper side)



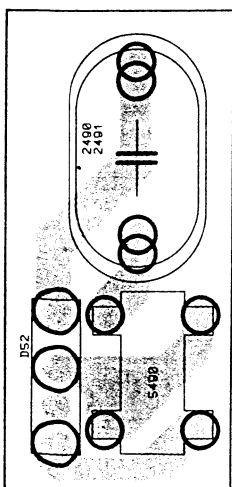
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23008	D7	5319	E3
23009	E6	5328	E2
2310	E7	5338	E4
2311	E6	5343	E4
2317	B2	5346	A4
2330	D2	5349	A3
2337	C7	6302	B7
2338	E7	6305	D2
2338	E5	6306	E1
2339	C7	6307	D6
2340	C7	6308	D7
2350	E5	6318	B1
2351	D6	6319	A2
3000	E7	6327	C2
3001	E5	6328	B2
3002	E2	6350	E6
3003	D3	7305	E2
3004	D2	7306	E2
3005	D2	7318	A3
3006	D2	7319	B2
3007	D1	7325	A5
3008	D2	7327	B2
3009	D3	7328	C2
3010	A6	9302	B6
3011	A6	9306	E3
3012	A6	9319	A3
3013	E1	9321	A2
3014	C1	9333	C1
3015	A2	9336	A5
3016	A4	9337	A5
3017	B1	9341	D1
3018	B1	9343	E4
3019	B1	9346	A4
3020	C1	9347	D1
3021	B1	9349	B3
3022	A6	9350	C2
3023	C2	9351	E7
3024	A5	9352	E7
3025	B6	9372	B6
3026	A6	9377	C1
3027	A5	L3	C7
3028	B2	L4	C6
3029	B2	L5	C4
3030	D2	L6	C7
3031	C3	L7	B7
3032	C2	L58	C4
3033	C2		
3034	C1		
3035	B1		
3036	B5		
3037	B5		
3038	B5		
3039	A3		
3040	A2		
3041	D1		
3042	B1		
3043	E4		
3044	E4		
3045	D4		
3046	A4		
3047	D1		
3049	B3		



Power supply control panel 25" and 29" (Copper side)



S-correction panel 25" 110° (Copper side)



Main carrier 25" and 29" [AA/B/C/D]

Various

4822 404 21262	Bracket clamping heatsink	2251 4822 126 12643	22nF 20% 50V
4822 492 62076	Spring for TS7513 and IC7400	2253 4822 126 12643	22nF 20% 50V
▲ 4822 492 70289	Spring for TS7445	2254 4822 124 81032	22uF 20% 50V
▲ 4822 532 61201	EHT cable spacer	2254 5322 124 41431	22uF 20% 35V
4822 265 31193	3 pins male WTB	2256 5322 121 42386	100nF 5% 63V
4822 265 20441	3 pins header	2257 5322 121 42386	100nF 5% 63V
4822 417 50217	4 pins male BTB (AU)	2260 4822 122 31061	18pF 2% 100V
4822 265 31189	4 pins male WTB	2260 4822 126 12861	15pF 5% 50V
4822 265 30378	4 pins male WTB	2261 4822 126 12643	22nF 20% 50V
4822 265 30796	4 pins header (M5)	2262▲ 4822 124 40433	47uF 20% 25V
4822 265 30934	5 pins header (M26)	2264 4822 126 12643	22nF 20% 50V
4822 265 31181	5 pins male WTB (M25)	2265 4822 124 81023	2.2uF 20% 50V
4822 265 31093	6 pins male BTB (AU)	2266 4822 124 41757	10uF 20% 16V
4822 265 31099	6 pins snap blue	2272 4822 126 12641	4.7nF 20%
4822 290 40295	7 pins male WTB	2273 5322 121 42386	100nF 5% 63V
4822 267 51241	8 pins male BTB (AU)	2275 5322 122 32334	220pF 10% 100V
4822 265 40818	8 pins male WTB	2277 5322 122 32334	220pF 10% 100V
1000 4822 210 10448	UV915E/IEC	2280 4822 121 43526	47nF 5% 250V
1000▲ 4822 210 10459	UV913/IEC	2281 5322 122 32491	1nF 20% 100V
1000 4822 210 10561	UV936E/F (PLL)	2282 5322 122 32491	1nF 20% 100V
1000 3139 147 11380	UV953/IEC -/93 (local sourcing)	2283 5322 122 32491	1nF 20% 100V
1015 4822 242 72197	OFWK2950 38.9 MHz	2284 4822 121 43526	47nF 5% 250V
1015 4822 242 73792	OFWM1963 45.75 MHz	2285 4822 121 43526	47nF 5% 250V
1015 4822 242 81556	OFWK2950M 38.9 MHz	2302 4822 126 12643	22nF 20% 50V
1015 4822 242 81637	OFWK3952M 38.9 MHz	2304 4822 126 13097	560pF 10% 50V
1105 4822 242 71713	6.0 MHz	2306 4822 124 80495	4.7uF 20%
1105 4822 242 72547	5.5 MHz	2317 4822 126 13097	560pF 10% 50V
1105 4822 242 81557	4.5 MHz	2330 4822 126 13097	560pF 10% 50V
1106 4822 242 72057	6.5 MHz	2340 4822 126 12833	4.7nF 20% 2KV
1204 4822 242 71207	4.5 MHz	2350 5322 122 32491	1nF 20% 100V
1206 4822 242 71207	4.5 MHz	2351 4822 121 41673	220nF 10% 100V
1206 4822 242 81712	5.5/5.74 MHz	2401 4822 122 31176	390pF 10% 500V
1207 4822 242 81301	6.5 MHz	2401 4822 126 13185	680pF 10% 500V
1208 4822 153 30025	6.0 MHz	2402 5322 121 42386	100nF 5% 63V
1208 4822 242 81712	5.5/5.74 MHz	2403 4822 126 11134	5.6nF 10% 50V
1275 4822 242 81691	4.433619 MHz	2404 4822 124 81039	3300uF 20% 25V
1277 4822 242 81575	3.579500 MHz	2405 4822 124 21212	15uF 20% 40V
1449▲ 4822 071 56301	Fuse 630 mA	2414 4822 126 12639	2.2nF 20%
1540▲ 4822 071 53152	Fuse 3.15 A	2415 4822 124 80059	100uF 20% 25V
1630 4822 242 81727	10.0 MHz ceramic	2416 4822 121 43526	47nF 5% 250V
1630 4822 242 81893	10.0 MHz crystal	2421 4822 122 33305	2.7nF 5% 50V
-II-		2422 4822 121 43823	470nF 5% 50V
2001 4822 126 12642	10nF 20% 50V	2423 4822 126 12864	2.2nF 2% 250V
2002 4822 124 81022	1uF 20% 50V	2424 4822 124 81022	1uF 20% 50V
2007 4822 121 41856	22nF 5% 250V	2425 4822 126 12642	10nF 20% 50V
2008 5322 121 42386	100nF 5% 63V	2426 4822 121 41853	100nF 10% 100V
2009 4822 126 12642	10nF 20% 50V	2427 4822 126 12641	47nF 20%
2010 4822 124 40202	1500uF 20% 16V	2428 4822 122 30045	27pF 2% 100V
2016 4822 126 12642	10nF 20% 50V	2431 4822 121 43526	47nF 5% 250V
2017 4822 122 31348	120pF 2% 100V	2431 4822 122 33449	47nF 30% 50V
2026 4822 122 31056	12pF 2% 100V	2432 4822 121 43526	47nF 5% 250V
2027 4822 126 12642	10nF 20% 50V	2432 4822 122 33449	47nF 30% 50V
2101 4822 122 33532	3.3nF 5% 50V	2438 4822 121 42007	100nF 10% 100V
2102 4822 122 31072	47pF 2% 100V	2439 4822 126 11308	47pF 5% 500V
2102 4822 126 12641	4.7nF 20%	2440 4822 126 12519	330pF 10%
2102 4822 126 12789	82pF 5% 50V	2441▲ 4822 126 11382	1nF 10% 1KV
2103 4822 121 51231	820pF 1% 400V	2442 4822 122 40112	560pF 20% 500V
2104 4822 124 40248	10uF 20% 63V	2443 4822 124 41545	220uF 20% 16V
2112 4822 122 31072	47pF 2% 100V	2444 4822 121 42007	100nF 10% 100V
2112 4822 126 12519	330pF 10%	2445▲ 4822 126 12274	1500pF 10%R(HR) 2KV
2112 4822 126 13097	560pF 10% 50V	2446▲ 4822 121 70465	11nF 5% 1.6KV
2119 4822 126 12862	56pF 5% 50V	2446▲ 4822 121 70542	12nF 5% 1.6KV
2119 4822 126 13096	270pF 10% 50V	2447▲ 4822 126 13435	12nF 10% 2KV
2123 4822 126 12639	2.2nF 20%	2448 4822 124 22583	47uF 160V
2200 4822 121 51319	1uF 10% 63V	2448 4822 124 81042	47uF 50-20% 200V
2208 4822 122 33449	47nF 30% 50V	2449▲ 4822 126 11382	1nF 10% 1KV
2212 5322 121 42386	100nF 5% 63V	2450▲ 4822 121 42073	30nF 10% 400V
2213 4822 121 42868	220nF 5% 50V	2450 4822 121 70281	50nF 5% 400V
2219 4822 121 51319	1uF 10% 63V	2451 4822 124 81043	1uF 20% 100V
2220▲ 4822 124 40433	47uF 20% 25V	2451 4822 124 40756	1uF 20% 100V
2221 5322 121 42386	100nF 5% 63V	2452 4822 124 22582	22mF 20% 16V
2222 4822 124 81023	2.2uF 20% 50V	2452 4822 124 40432	100uF 20% 25V
2223 5322 121 42386	100nF 5% 63V	2453 4822 124 41747	60uF 20% 35V
2224 4822 124 81021	100uF 20% 16V	2453 4822 124 80063	60uF 20% 35V
2225 4822 126 12643	22nF 20% 50V	2454▲ 4822 126 11382	1nF 10% 1KV
2228 4822 121 51252	470nF 5% 63V	2456 4822 126 11308	47pF 5% 500V
2228 4822 124 81022	1uF 20% 50V	2457 4822 121 51524	51nF 10% 250V
2236 5322 122 32491	1nF 20% 100V	2457 5322 121 42532	1nF 10% 400V
2243 4822 126 12643	22nF 20% 50V	2458 4822 124 81022	1nF 20% 50V
2245 5322 121 42386	100nF 5% 63V	2460 4822 121 51385	31nF 20% 100V
2246 4822 121 42408	220nF 5% 63V	2461 4822 121 40475	1nF 10% 400V
2248 5322 122 32491	1nF 20% 100V	2462▲ 4822 126 12269	60pF 10%R(HR) 2KV
2249 5322 122 32491	1nF 20% 100V	2470 4822 124 10533	2uF 20% 250V
		2472 4822 126 12792	22nF 10% 500V
		2480 4822 121 43368	47uF 160V
		2480 4822 124 40756	1uF 20% 100V
		2481 4822 121 43396	10nF 5% 63V
		2482 4822 124 81022	1uF 20% 50V
		2483▲ 4822 124 40433	47uF 20% 25V
		2484 4822 126 11134	51nF 10% 50V
		2484 4822 126 12639	21nF 20%
		2485 4822 121 51436	80nF 10% 63V
		2505 4822 124 41748	20uF 20% 400V
		2505▲ 4822 124 42159	30uF 20% 400V
		2505 4822 124 80855	30uF 20% 400V
		2513 4822 126 12792	21nF 10% 500V
		2520▲ 4822 126 12269	60pF 10%R(HR) 2KV
		2521▲ 4822 126 12095	20pF 10% 2KV
		2522 4822 126 11824	10pF 10% 1KV
		2525▲ 4822 122 40602	1uF 20% 400V

Spare parts list

2526	4822 121 42071	3.9nF 10% 400V	3261	4822 116 52271	33k 5% 0.5W	3438	4822 116 52303	8k2 5% 0.5W	3643	4822 116 52256	2k2 5% 0.5W
2529	4822 126 12642	10nF 20% 50V	3262	4822 116 52296	6k8 5% 0.5W	3439	4822 116 52269	3k3 5% 0.5W	3645	4822 050 26804	680k 1% 0.6W
2530	4822 126 13153	1nF 10%R(HR)	3263	4822 116 52244	15k 5% 0.5W	3440	4822 116 52199	680Ω 5% 0.5W	3646	4822 116 52263	2k7 5% 0.5W
		3KV	3264	4822 100 20166	10k 30% lin 0.1W	3442	4822 116 52289	5k6 5% 0.5W	3647	4822 116 52233	10k 5% 0.5W
2531	4822 124 22583	47uF 160V	3265	4822 116 52207	1k2 5% 0.5W	3443	4822 052 10222	2k2 5% 0.33W	3647	4822 116 52284	47k 5% 0.5W
2531	4822 124 81042	47uF 20% 200V	3265	4822 116 52231	820Ω 5% 0.5W	3446	4822 116 52213	180Ω 5% 0.5W	3648	4822 116 52257	22k 5% 0.5W
2540	4822 124 42106	1500uF 20% 35V	3267	4822 116 52244	15k 5% 0.5W	3447	4822 116 52296	6k8 5% 0.5W	3648	4822 116 52261	24k 5% 0.5W
2541	4822 126 11382	1nF 10% 1KV	3268	4822 116 52233	10k 5% 0.5W	3448	4822 052 11108	1Ω 5% 0.5W	3649	4822 116 52238	12k 5% 0.5W
2548	4822 126 11824	100pF 10% 1KV	3270	4822 116 52264	27k 5% 0.5W	3451	4822 116 52271	33k 5% 0.5W	3650	4822 116 52244	15k 5% 0.5W
2561	4822 124 81032	22uF 20% 50V	3271	4822 116 52283	4k7 5% 0.5W	3452	4822 052 10279	27Ω 5% 0.33W	3652	4822 116 52258	220k 5% 0.5W
2561	5322 124 41431	22uF 20% 35V	3273	4822 116 52234	100k 5% 0.5W	3452	4822 052 11108	1Ω 5% 0.5W	3653	4822 116 52211	150Ω 5% 0.5W
2604	4822 122 33293	100pF 5% 50V	3278	4822 116 52283	4k7 5% 0.5W	3454	4822 050 22202	2k2 1% 0.6W	3654	4822 116 52244	15k 5% 0.5W
2605	4822 124 40749	3.3uF 20% 63V	3284	4822 050 11002	1k 1% 0.4W	3455	4822 116 52228	680Ω 5% 0.5W	3656	4822 116 52233	10k 5% 0.5W
2605	4822 124 81041	3.3uF 20% 50V	3300	4822 052 10101	100Ω 5% 0.33W	3456	4822 053 20334	330k 5% 0.25W	3661	4822 116 52249	1k8 5% 0.5W
2606	4822 126 12643	22nF 20% 50V	3301	4822 116 52265	270k 5% 0.5W	3456	4822 053 20434	430k 5% 0.25W	3662	4822 116 52289	5k6 5% 0.5W
2607	4822 122 33293	100pF 5% 50V	3302	4822 053 12123	12k 5% 3W	3457	4822 116 52233	10k 5% 0.5W	3670	4822 116 52226	560Ω 5% 0.5W
2608	5322 122 32356	820pF 10% 100V	3303	4822 050 21502	1k5 1% 0.6W	3458	4822 116 52226	560Ω 5% 0.5W	3671	4822 116 52226	560Ω 5% 0.5W
2610	5322 122 32356	820pF 10% 100V	3304	4822 116 52175	100Ω 5% 0.5W	3460	4822 116 52251	18k 5% 0.5W	3672	4822 116 52233	10k 5% 0.5W
2615	5322 122 32356	820pF 10% 100V	3305	4822 116 52215	220Ω 5% 0.5W	3460	4822 116 52257	22k 5% 0.5W	3673	4822 116 52233	10k 5% 0.5W
2620	4822 124 81022	1uF 20% 50V	3306	4822 116 52246	1k6 5% 0.5W	3470	4822 052 11828	802 5% 0.5W	3681	4822 050 22203	22k 1% 0.6W
2624	5322 122 32356	820pF 10% 100V	3307	5322 100 11542	4k7 30% lin 0.1W	3471	4822 116 52224	470Ω 5% 0.5W	3682	4822 116 52257	22k 5% 0.5W
2625	5322 122 32356	820pF 10% 100V	3308	4822 116 52175	100Ω 5% 0.5W	3472	4822 116 52228	680Ω 5% 0.5W	3683	4822 116 52257	22k 5% 0.5W
2626	5322 122 32356	820pF 10% 100V	3309	4822 116 52213	180Ω 5% 0.5W	3473	4822 116 52224	470Ω 5% 0.5W	3684	4822 050 21003	10k 1% 0.6W
2627	5322 122 32356	820pF 10% 100V	3310	4822 116 52289	5k6 5% 0.5W	3474	4822 116 52223	430Ω 5% 0.5W	3685	4822 116 52257	22k 5% 0.5W
2628	5322 122 32356	820pF 10% 100V	3311	4822 116 52289	5k6 5% 0.5W	3480	4822 052 10128	1Ω 5% 0.33W	3685	4822 116 52284	47k 5% 0.5W
2636	4822 122 33307	10nF 5% 50V	3312	4822 116 52289	5k6 5% 0.5W	3481	4822 116 52252	180k 5% 0.5W	3686	4822 050 21003	10k 1% 0.6W
2636	4822 126 12642	10nF 20% 50V	3313	5322 100 11541	2k2 30% lin 0.1W	3481	4822 116 52284	47k 5% 0.5W	3687	4822 116 52284	47k 5% 0.5W
2638	5322 122 32491	1nF 20% 100V	3314	5322 100 11541	2k2 30% lin 0.1W	3482	4822 116 52251	18k 5% 0.5W	3688	4822 116 52175	100Ω 5% 0.5W
2640	4822 122 30045	27pF 2% 100V	3315	4822 053 12123	12k 5% 3W	3482	4822 116 52284	47k 5% 0.5W	3688	4822 116 52195	47k 5% 0.5W
2648	4822 124 40248	10uF 20% 63V	3316	4822 050 21502	1k5 1% 0.6W	3483	4822 116 52283	4k7 5% 0.5W	3689	4822 116 52175	100Ω 5% 0.5W
2656	5322 121 42661	330nF 5% 63V	3317	4822 116 52175	100Ω 5% 0.5W	3483	4822 116 52291	56k 5% 0.5W	3690	4822 116 52175	100Ω 5% 0.5W
2682	4822 124 40433	47uF 20% 25V	3318	4822 116 52215	220Ω 5% 0.5W	3484	4822 100 20166	10k 30% lin 0.1W	3691	4822 116 52284	47k 5% 0.5W
2682	4822 124 81022	1uF 20% 50V	3319	4822 116 52246	1k6 5% 0.5W	3484	4822 101 11003	220k 30% 0.1W	3691	4822 116 52303	8k2 5% 0.5W
2683	4822 126 12639	2.2nF 20%	3320	5322 100 11542	4k7 30% lin 0.1W	3485	4822 050 11002	1k 1% 0.4W	3692	4822 116 52304	8k2 5% 0.5W
2683	5322 121 42386	100nF 5% 63V	3321	4822 116 52175	100Ω 5% 0.5W	3486	4822 116 52224	470Ω 5% 0.5W	3693	4822 116 52257	22k 5% 0.5W
2685	4822 124 81032	22uF 20% 50V	3322	4822 116 52222	390Ω 5% 0.5W	3486	4822 116 52283	4k7 5% 0.5W	3693	4822 116 52284	47k 5% 0.5W
2686	4822 124 81022	1uF 20% 50V	3323	4822 116 52213	180Ω 5% 0.5W	3487	4822 116 52235	1M 5% 0.5W	3694	4822 116 52195	47k 5% 0.5W
2687	4822 124 81022	1uF 20% 50V	3324	4822 116 52243	1k5 5% 0.5W	3487	4822 117 11566	2M 5%	3695	4822 116 52238	12k 5% 0.5W
2688	5322 122 32491	1nF 20% 100V	3325	4822 116 52283	4k7 5% 0.5W	3488	4822 116 52234	100k 5% 0.5W	3695	4822 116 52277	39k 5% 0.5W
2689	5322 122 32491	1nF 20% 100V	3326	4822 116 52217	270Ω 5% 0.5W	3489	4822 100 11348	1k 30% lin 0.1W	3696	4822 050 11002	1k 1% 0.4W
2692	4822 124 40753	6.8uF 20% 63V	3327	4822 116 52228	680Ω 5% 0.5W	3489	4822 100 20589	20k 30% lin 0.1W	3696	4822 116 52283	4k7 5% 0.5W
2692	4822 124 81022	1uF 20% 50V	3328	4822 053 12123	12k 5% 3W	3519	4822 117 10422	0.33Ω 5% 3W	3697	4822 116 52175	100Ω 5% 0.5W
2695	4822 124 81032	22uF 20% 50V	3329	4822 050 21502	1k5 1% 0.6W	3520	4822 113 80637	1k5 5% 5W	3698	4822 116 52175	100Ω 5% 0.5W
2700	4822 124 40248	10uF 20% 63V	3330	4822 116 52175	100Ω 5% 0.5W	3521	4822 052 10222	2k2 5% 0.33W	3699	4822 116 52303	8k2 5% 0.5W
2700	4822 124 40753	6.8uF 20% 63V	3331	4822 116 52213	180Ω 5% 0.5W	3522	4822 116 52206	120Ω 5% 0.5W	3700	4822 116 52284	47k 5% 0.5W
2703	4822 124 40433	47uF 20% 25V	3332	4822 116 52215	220Ω 5% 0.5W	3522	4822 116 52215	220Ω 5% 0.5W	3702	4822 116 52239	120k 5% 0.5W
2711	4822 126 12643	22nF 20% 50V	3333	4822 116 52246	1k6 5% 0.5W	3525	4822 116 60127	4M 7 5% 1W	3703	4822 116 52284	47k 5% 0.5W
2714	4822 126 12688	47pF 5% 50V	3334	5322 100 11542	4k7 30% lin 0.1W	3526	4822 053 11473	47k 5% 2W	3704	4822 116 52233	10k 5% 0.5W
2714	5322 122 32334	220pF 10% 100V	3335	4822 116 52175	100Ω 5% 0.5W	3527	4822 052 11109	10Ω 5% 0.5W	3706	4822 116 52252	180k 5% 0.5W
2721	4822 122 31061	18pF 2% 100V	3336	4822 050 21502	1k5 1% 0.6W	3528	4822 117 11562	1k5 5% 7W	3707	4822 116 52256	2k2 5% 0.5W
2721	5322 122 32143	22pF 100V	3337	4822 050 21502	1k5 1% 0.6W	3529	4822 116 52298	680Ω 5% 0.5W	3708	4822 116 52245	150k 5% 0.5W
2722	4822 122 31061	18pF 2% 100V	3344	4822 052 10188	1Ω 5% 0.33W	3530	4822 116 52231	820Ω 5% 0.5W	3709	4822 050 11002	1k 1% 0.4W
2722	5322 122 32143	22pF 100V	3345	4822 052 10278	2Ω 5% 0.33W	3542	4822 116 52191	33k 5% 0.5W	3710	4822 116 52222	390Ω 5% 0.5W
2726	4822 122 33293	100pF 5% 50V	3350	4822 116 52234	100k 5% 0.5W	3560	4822 116 52213	180Ω 5% 0.5W	3711	4822 116 52284	47k 5% 0.5W
2727	4822 122 33293	100pF 5% 50V	3400	4822 116 52256	2k2 5% 0.5W	3561	4822 116 52195	47Ω 5% 0.5W	3713	4822 116 52278	390k 5% 0.5W
2728	4822 122 33293	100pF 5% 50V	3401	4822 116 52243	1k5 5% 0.5W	3562	4822 116 52224	470Ω 5% 0.5W	3715	4822 116 52249	1k 5% 0.5W
2734	4822 126 11134	5.6nF 10% 50V	3402	4822 050 11002	1k 1% 0.4W	3563	4822 116 52215	220Ω 5% 0.5W	3717	4822 116 52269	3k3 5% 0.5W
2736	4822 122 33527	100pF 10% 50V	3402	4822 050 21002	1k 1% 0.6W	3565	4822 116 52233	10k 5% 0.5W	3718	4822 116 52269	3k3 5% 0.5W
2738	4822 122 33532	3.3nF 5% 50V	3403	4822 116 52259	2k4 5% 0.5W	3597	4822 116 52233	10k 5% 0.5W	3719	4822 116 52233	10k 5% 0.5W
2739	5322 122 32491	1nF 20% 100V	3403	4822 116 52263	2k7 5% 0.5W	3597	4822 116 52234	100k 5% 0.5W	3720	4822 116 52106	120Ω 5% 0.5W
			3404	4822 116 52243	1k5 5% 0.5W	3597	4822 116 52239	120k 5% 0.5W	3721	4822 116 52106	120Ω 5% 0.5W
			3404	4822 116 52266	3k 5% 0.5W	3597	4822 116 52245	150k 5% 0.5W	3726	4822 116 52183	4k7 5% 0.5W
			3405	4822 116 52193	39Ω 5% 0.5W	3597	4822 116 52252	180k 5% 0.5W	3727	4822 116 52183	4k7 5% 0.5W
			3405	4822 116 81844	207 5% 0.5W	3597	4822 116 52258	220k 5% 0.5W	3728	4822 116 52183	4k7 5% 0.5W
3000	4822 116 52263	2k7 5% 0.5W	3406	4822 116 52257	22k 5% 0.5W	3597	4822 116 52291	56k 5% 0.5W	3730	4822 116 52183	4k7 5% 0.5W
3004	4822 116 52207	1k2 5% 0.5W	3406	4822 116 52271	33k 5% 0.5W	3597	4822 116 52297	68k 5% 0.5W	3731	4822 116 52183	10k 5% 0.5W
3005	4822 116 52207	1k2 5% 0.5W	3407	4822 116 52254	20k 5% 0.5W	3598	4822 116 52271	33k 5% 0.5W	3732	4822 116 52183	10k 5% 0.5W
3010	4822 052 10109	10k 5% 0.33W	3407	4822 116 52264	27k 5% 0.5W	3599	4822 116 52228	680Ω 5% 0.5W	3733	4822 116	

